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ARTICLE I.

HEREDITARY INSANITY. By A. W. HAGENBACH, M.D., Assistant Superintendent Cook County Hospital for the Insane.

The large percentage of insane patients admitted to this hospital in whom there pre-existed an undoubted hereditary predisposition to insanity led me, several years ago, to begin paying special attention to that part of the histories relating to heredity. As I have been stationed in the male department, the following observations will relate more especially to the male insane. A few cases among females will, however, be made use of to illustrate certain points.

I have before me the histories of 150 male patients admitted to the hospital from September 1, 1879, to September 1, 1881, and from these most of my deductions are drawn. My reasons for limiting myself to these cases are the brief and unsatisfactory histories of patients previously admitted; also because I preferred

accurate histories in limited numbers, to the promiscuous statistics too frequently made use of by the enthusiastic statistician. The difficulties encountered in obtaining accurate family histories cannot be appreciated by anyone who has not had occasion to collect them. People will frequently insist that every one of their blood relatives enjoyed excellent general health, and a most desirable mental and nervous constitution, while their speech and actions completely refute their assertions. The mere statement by relatives, that "There is no insanity in our family," is far from conclusive, as not infrequently, when more specific inquiries are made into the family history, it will be learned that an uncle, or aunt, committed suicide without any known cause, while a cousin was always regarded as "peculiar," and still others were epileptic, hysterical, or what not, and yet they cannot imagine how a member of such a healthy and well balanced family could ever have become insane. Ignorance of family history, false pride, and even superstitious fears have at times to be contended with in collecting histories.

The following table, "Table I," will show the age, occupation, form of insanity, and number and degree of relationship of insane relatives, of all the insane, in whom a history of hereditary predisposition was obtained, in the one hundred and fifty patients of whom this article chiefly treats.

In glancing over the table, it will be seen that 41 patients out of 150, admitted during two years, had insane relatives. If we subtract from this number the five cases who had insane cousins only as insufficient evidence of heredity, as the insanity might have been transmitted to them by persons related to the patient by marriage only, we still have 36 patients with a strong history of an inherited predisposition to insanity. When it is remembered that these patients were inmates of a pauper asylum, that at times it is impossible to learn even their correct names, and the relatives when found were frequently lamentably ignorant of their family histories, there can be no doubt that could the full histories of all the patients have been ascertained, fully 33 per cent. would have had insane relatives, and are themselves the victims of an inherited predisposition to mental disease.

TABLE 1.

No.	Age.	Occupation.	Form of Insanity.	Relatives Insane.									
				Father.	Mother.	Sister.	Brother	Uncle.	Aunt.	G. Mother.	G. Aunt.	Cousin.	
1	45	Engineer.	Melanch.	1	...	4	....	1	1	....	....	....	
2	18	Laborer	Mania.	....	....	....	....	....	1	....	....	....	Both parents very intemperate.
3	34	Exp'sman.	G. Paresis.	....	...	....	1	....	....	....	....	....	
4	24	Clerk.	Dementia.	....	....	....	....	1	....	....	1	1	Mother extremely nervous.
5	48	Jockey.	Melanch.	....	1	....	1	....	....	....	....	....	A son epileptic.
6	52	Laborer.	Dementia.	1	....	....	....	....	....	....	....	....	
7	33	Peddler.	Melanch.	....	....	....	....	3	1	....	....	....	Mother paralyzed.
8	39	B'ksmith.	Melanch.	....	....	1	1	....	....	....	....	....	
9	29	Laborer.	Mania.	....	....	....	1	....	....	....	....	....	Two nephews imbecile.
10	34	Laborer.	Melanch.	....	1	....	....	....	....	....	....	....	
11	32	Printer.	Mania.	1	....	....	....	....	1	....	....	....	Parents were first cousins.
12	39	L'ksmith.	Dementia.	1	....	....	....	....	....	....	....	....	
13	50	Laborer.	Man. Rec.	1	....	....	....	....	....	....	....	....	
14	22	Cigarmkr.	Dementia.	....	....	....	....	....	....	....	....	1	
15	54	Hospter.	Neu Epil.,	....	....	....	....	....	....	....	....	1	
16	2-	Uph'lste'r.	Melanch.	....	....	....	1	....	....	....	....	....	
17	23	Liverym'n	Melanch.	....	....	....	....	....	....	....	....	1	
18	26	Student.	Melanch.	1	1	....	1	....	....	1	....	....	Brother and grandmother suicidal.
19	52	Plasterer.	Mania.	1	....	....	....	....	....	....	....	....	
20	29	Printer.	Man. Rec.	1	....	....	....	....	1	....	....	....	
21	40	Laborer.	Mania	....	....	....	....	....	1	....	....	1	
22	32	Laborer.	Dementia.	....	....	....	....	....	1	....	....	1	Two nephews insane.
23	30	Shoem'k'r	Melanch.	....	....	....	1	....	....	....	....	....	
24	45	Clerk.	Mania.	....	....	1	....	....	....	....	....	....	Father died of cerebral apoplexy.
25	30	Clerk.	G. Paresis.	....	....	....	....	1	....	....	....	....	
26	66	Farmer.	Melanch.	....	1	....	....	....	....	....	....	....	Father died of paralysis agitans.
27	24	Actor.	Melanch.	....	....	....	....	1	....	....	....	....	
28	32	Laborer.	Dementia.	....	....	....	....	....	1	....	....	....	
29	62	Machinist.	Melanch.	....	....	....	11	....	....	....	....	....	Two brothers committed suicide.
30	63	Laborer.	Man. Rec.	....	....	....	1	....	....	....	....	....	
31	50	Laborer.	Dementia.	....	....	....	....	1	1	....	....	....	
32	40	Farmer.	Melanch.	....	....	....	....	....	....	....	....	1	Father very eccentric.
33	48	Laborer.	Man. Rec.	....	....	1	1	....	1	....	....	....	
34	35	Painter.	Mania.	1	....	....	....	....	....	....	....	....	
35	36	Baker.	Mania.	....	....	....	....	1	....	....	....	1	
36	45	Printer.	Dementia.	....	....	....	....	....	....	....	....	1	
37	49	Clerk.	G. Paresis.	....	1	....	....	....	....	....	....	11	Father hemiphlegic.
38	27	Laborer.	Dementia.	....	1	....	....	....	....	....	....	....	
39	41	Fireman.	Mania.	....	....	1	....	....	....	....	....	....	
40	45	Carpent'r.	Man. Rec.	....	....	....	....	1	....	....	....	1	
41	37	Clerk.	Melanch.	....	....	....	1	....	....	....	....	....	
			Total.....	9	6	8	12	10	10	1	1	12	

The fact that different writers on insanity report from 15 to 75 per cent. of the admissions to asylums as due to an inherited predisposition, may possibly be accounted for by the various area of relationship included in these tables, as well as the more or less complete facilities for getting histories of the cases admitted. It would not be remarkable that the percentage regarded as hereditary should be larger in private than public asylums, because the relatives of the class of patients usually sent to private hospitals are better informed as to their family histories than those of the average indigent lunatic.

In reply to the question, "How does the insane neurosis originate?" I have become satisfied that some of the chief elements are intemperance in ancestors, consanguineous marriages, intermarriages of persons of like vicious temperaments, and tuberculosis. I could enumerate a number of cases of intemperance in ancestors resulting in insanity in the offspring, as this is a frequent item in the histories of the insane, but one illustrative case will be briefly reported.

Case 1.—J. C., after some slight exciting cause, went violently insane. When admitted to the hospital all the symptoms of acute mania were well marked. In taking a history of the case it was learned that his ancestors on paternal and maternal sides were long lived, and well balanced; there had never been a single case of insanity or other nervous affection in either branch, so far as could be ascertained. As he had always enjoyed average health previous to the attack of insanity, which had manifested itself after a slight quarrel with his aunt, I inquired very carefully into the family history, but was unable to learn any facts tending to show that his ancestors could have been responsible for his poorly balanced mind, until I learned from outside sources a fact which had been carefully concealed by his relatives, viz., his father was a habitual drunkard for years previous to the birth of the patient, and died of delirium tremens. His mother, who was still living at the time of his admission, had also indulged to excess before the patient was born. He commenced to improve shortly after his admission, and was discharged as "recovered" in a few days less than eight months, and has been working ever since. The mental excitement for the time was allayed, but unless he is extremely fortunate in escaping all sources of excitement, the probabilities are that he will sooner or later again become deranged, and most likely end his days as a chronic dement in some hospital for the insane, as each recurrence of the maniacal excitement will leave his mind more and more shattered, and less able to resist exciting causes, or recover from the maniacal excitement.

Consanguineous Marriages.—"Like begets like." The parents are reproduced in the children, transmitting to them all their qualities, whether good or bad. If both parents have simi-

lar bad qualities, the offspring inherit their combined defects. This fact is understood by the intelligent breeder, who carefully studies all the good and bad points of the animals he is about to breed. But a short time ago a gentleman refused to breed a cross mare with an equally vicious horse, because he feared the offspring would be so refractory as to be entirely unmanagable. Different breeds of horses have distinguishing traits by which they are easily recognized. I remember a steed whose colts, nearly without exception, it was almost impossible to break to drive, but if once thoroughly broken they made the safest of horses. Different breeds of horses have characteristic mental traits, such as gentleness, kindness, etc., by which they may be recognized almost as surely as by their peculiarities of form, color or gait. While interbreeding within narrow limits is sometimes resorted to, to increase certain desirable points, if carried too far the breed invariably deteriorate. In the human species, the same as among the lower animals, interbreeding in certain cases might prove harmless or even beneficial to the offspring, but such cases must necessarily be as rare as the examples of families who are entirely free from all nervous and physical de-defects.

To illustrate how consanguineous marriages may prove harmless in one instance, and deleterious in another, I report the two following cases, which have come under my own observation. With all the parties of the first case I have been intimately acquainted for years. The second case came to my notice in this institution several years ago.

Case II.—A, aged about forty years, of sanguine temperament, married his first cousin, B, aged about twenty-five years. As a result of the marriage four children were born, one boy and three girls, all of whom are living and enjoying good physical and mental health. The father of A, of a nervo-sanguine temperament, a school teacher by profession, died at the age of eighty-nine years, of "general exhaustion accompanying old age." His mental faculties at the age of eighty-six, when I last saw him, were remarkably well preserved. The mother of A, of a mixed temperament, always enjoyed good health, and at the age of eighty-five years was still quite hale and hearty, and in full

possession of all her mental faculties. Her memory was remarkably retentive for one of her years, and she could repeat from memory the names and dates of all her grandchildren, over twenty in number. Her recollection of recent events was quite remarkable. After reading a newspaper she could repeat correctly all the items of interest, not omitting the most minute particulars, even to the dates, localities, etc. She died of "general exhaustion accompanying old age," aged eighty-eight years.

The father of B, a sober, industrious man, of a phlegmatic temperament, died, aged sixty-five years. Cause of death unknown. The mother of B, a sister of A's mother, died at the age of seventy-five years, of "diarrhœa and old age." The family histories of all concerned were remarkably free from nervous affections, not a single member, so far as could be ascertained, had ever been insane, epileptic or hysterical, neither had there been a single death from rheumatism, phthisis pulmonalis, or cancer, in the entire family. It will be seen by reviewing the histories of A and B, that they should have inherited good mental and physical health, and their children, perfect in every respect, demonstrate that the danger of consanguineous marriages to the offspring does not depend upon the degree of consanguinity, but upon the increase of defects (especially nervous) existing in the parents.

Case III.— C, aged twenty-five, of nervous temperament, whose father was very nervous and eccentric, married his first cousin, also of a nervous temperament. The mother of D, and sister to C's father, although never confined in an asylum, was regarded by every one as of unsound mind for many years previous to her death. Result of marriage, five children, two girls and three boys. The boys all died during the period of dentition. Two died in convulsions. Of the two girls, one died in the hospital, of epileptic dementia, the other, and only surviving child, aged about eleven years, was a microcephalic idiot, who had never been able to walk, on account of deformed extremities, and when I last saw her parents, about three years ago, I was informed that she was entirely helpless, unable to feed herself, or even direct attention toward the calls of nature.

To the question so frequently asked of the physician, "Are

consanguineous marriages harmful?" I would reply, in the words of Prof. J. Adams Allen, "That depends upon the mental and physical condition of the parties united in marriage." There are but very few families that are entirely free from all nervous defects. This I consider as one of the greatest reasons why consanguineous marriages generally prove harmful, and the miserable creatures frequently begotten are such burdens to themselves and society, and the danger of latent nervous disease even in persons of apparently good health are so great, that I would favor the passage of laws strictly prohibiting all consanguineous marriages. The cases of the patriarchs who intermarried very closely cannot, I think, be cited as favoring the practice, as from all accounts extant of these people, we are led to regard them as persons who arrived at very great ages, enjoyed excellent general health, and were remarkably clear-headed. In short, they were just the people who could stand intermarriage with blood relatives. But the ordinary mortal of the nineteenth century, afflicted with inherited neuroses, should not, in this respect, take pattern by the examples set by the patriarchs. There are few more difficult problems for the physician to solve than that of the absence or presence of danger to the offspring in relatives about to be united, and unless satisfied by a careful examination of the parties, as well as the family histories, that there is no possible danger the union should be strongly objected to.

Other Improper Marriages.—If not somewhat foreign to my subject, a great deal might be said regarding the duties of physicians when called upon to express a professional opinion, regarding the advisability of parties becoming united by marriage, not related, but affording evidences of insanity, phthisis pulmonalis or any other defect that could endanger the health or existence of the offspring. Physicians too frequently pander to the popular delusions that puberty and marriage are the panaceas for every ailment to which the young female is subject to. The parents of nervous or scrofulous children are promised a restoration to health after the establishment of the menstrual function, and if no improvement follows at this period, the next step is to select some rugged mate, who is to effect some wonderful transformation in the unfortunate being. A sad case of this kind

came to my notice in the person of F. B., an inmate of this asylum, who was imbecile and hysterical since ten years of age. At the age of seventeen years she was given in marriage by her parents to a drunken, worthless fellow, who, after living with her for several years, ill-treating her in a shocking manner, deserted her, a mother of two children, which, fortunately for themselves and society, died in infancy and early childhood. By removing from society these imperfect creations, preventing the propagation of so deleterious an element, and affording protection to those who, above all others, are easily misled and imposed upon, the hospitals for Feeble-Minded Children, which have been established in the various States of the union, perform their highest mission.

Phthisis pulmonalis is a very common cause of death among the ancestors of the insane. In fifty cases of insanity where the causes of death of parents were pretty accurately ascertained eight had fathers and seven had mothers die of phthisis pulmonalis. A patient, at present an inmate of this hospital, with evidences of tubercular deposits in both lungs, and whose insanity is regarded as due to tubercular meningitis, had his father, brother, four first cousins and paternal uncle all die of phthisis pulmonalis. Phthisis is one of the most frequent causes of death among the insane, and as the usual signs, such as cough and expectoration, are frequently greatly modified or entirely wanting, patients are not infrequently found, upon physical examination, in an advanced stage of the disease, in whom its presence had hardly been suspected. In a large percentage of post-mortems held upon the chronic insane, tubercular deposits were found (generally in the lungs only), but in several instances greatly diffused throughout the entire body, especially in the peritoneum, and cerebral meninges.

Aside from the causes already enumerated, any disease in the parents tending to innervation and general debility, may have an effect upon the nervous organization of the children begotten while the parents are thus debilitated.

According to some of the best authorities, insanity in the mother is more dangerous to the daughters than the sons, while insanity in the father is said to be about equally dangerous to

sons and daughters, and that on the whole insanity in the mother is more dangerous to the offspring than insanity in the father.

By glancing at Table I. it will be seen that nine of the patients had insane fathers, and six had insane mothers. That insanity in the mother is more dangerous to the offspring can, I think, be explained, in part, at least, by remembering the relative importance of the two sexes in the reproduction of the species, especially the human, in whom the fœtus, for months, is carried in the uterus of the female, and, I firmly believe, influenced to a certain extent by the emotions and nervous impressions of the mother; and for months after birth the child receives its sole nourishment from the female lacteal secretions, which certainly are changed in quality and quantity by the mental condition of the mother, and even later, during the early years of childhood, while the characters are being formed, the mother, by her constant presence and example, almost invariably exerts the greater influence over the offspring. Of the five great acts comprising the function of generation, 1, copulation, 2, fecundation, 3, gestation, 4, delivery, 5, lactation, the male takes part in the first two only. While the relative importance of the sexes may be reversed in certain of the batrachia, where impregnation takes place after the spawn in which the eggs are contained are deposited outside of the body of the female, in the mammalia the female performs the greater part of the function of generation.

There was a time when breeders imagined that all it was necessary to do to improve their stock was to import a blooded bull, but a radical change of opinion has taken place among intelligent breeders, as can be plainly seen by visiting a blooded cattle show and noticing the great importance attached to the pedigree of heifers and cows, also the increasing demand and high prices of thoroughbred heifers and cows.

Is the form of insanity or an insane neurosis transmitted? I have seen no cases in which I believed the form of insanity had been transmitted, but regarded all the cases that came under my care as having inherited an unstable nervous system, with a predisposition to nervous, and especially mental disease, the form of insanity depending chiefly upon surroundings, education, and exciting causes. Thus, of two brothers inheriting an insane tem-

perament, one by excessive mental work and close confinement, impairs his general health, becomes dyspeptic, anæmic and neuresthenic. If, while in this condition he becomes insane, the insanity is apt to be less acute and less amenable to treatment than insanity in the brother, who always enjoyed active out-door exercise and good digestion until he met with some sudden reverse in fortune, which disturbed the equilibrium of his inherited poorly balanced mind.

The cases of suicidal melancholia reported, in which several members of the same family became melancholy and committed suicide, I do not regard as an evidence of the theory of the transmission of the form of insanity, and think they can be explained by remembering that "The particular form of insanity is determined by the natural temperament, and as the temperament is hereditary, the predisposition to insanity in blood relatives being similar in nature, will result in similar forms of insanity," modified by surroundings, education, etc.

One of the most remarkable histories of an inherited predisposition to insanity ever obtained in a patient admitted to this hospital, is case 1, of Table I, and is briefly reported as affording an example of the virulent nature of the neurosis in some families.

Case IV.—H. F., aged forty-five years, locomotive engineer, admitted September 11, 1879. Upon examination found him poorly nourished; heart and lung sounds normal; tongue pale and flabby. Partial paralysis involving right side, of several weeks' duration. For cranial measurement, etc., see case 1, Tables I and III. Mentally he was alternately melancholy and maniacal, with short intervals of comparative sanity from the time of his admission until he eloped, January 15, 1880. He was the youngest of seven children, four of whom died insane. The following enumeration will show the present condition of those living, and causes of death of those deceased, of all his brothers and sisters:

I.—C. F., farmer, living, mental condition unknown, general health has been greatly impaired for many years.

II.—B. F., died, aged nineteen years, from sequelæ of measles.

III.—W. F., lake captain, aged fifty-five years, suffers greatly

with nervous headache, neuralgia, and marked impairment of his general health. Very nervous and emotional.

IV.—Sister, age unknown, for many years an inmate of the State Hospital for Insane, at Utica, N. Y. Was removed from the hospital completely demented several weeks previous to her death. Form of insanity, melancholia.

V.—Sister. Died in asylum at Rochester, N. Y.; age, form of insanity and cause of death, unknown.

VI.—Sister; married; died at her home of puerperal insanity several weeks after confinement.

VII.—C. F., subject of this history.

His father, although never an inmate of an asylum, was of unsound mind for ten years previous to his death. His paternal uncle was an inmate of the asylum at Utica, N. Y., for several months, and was discharged as recovered in 1853. He afterward held numerous positions of trust until several years ago, when he committed suicide by hanging, without any known cause. He was, financially and otherwise, comfortably situated.

H. F. also had a paternal aunt that was at times insane. He was apparently well until nineteen years of age, when he became insane, and was for several months an inmate of the asylum at Utica. He afterward served his time as a machinist, and soon afterward got an appointment as locomotive engineer, a calling which he followed almost uninterruptedly until several years ago, when he was compelled to quit on account of impaired general health. Six months previous to his admission he had an apoplectic fit, followed by partial right hemiplegia, and considerable mental excitement, from which he recovered completely in the course of several weeks. He had several similar attacks previous to his admission, September 11th, 1879.

Sept. 13.—Had a fit last night; paralysis more marked. Mentally much depressed, speaks of committing suicide.

Sept. 19.—Since the 13th he has gradually become excitable and noisy. This A. M., is very violent, gesticulating with his sound arm and talking incessantly.

Sept. 24.—General health failing. Mentally depressed. Marked loss of memory.

Sept. 25.— Very noisy, shouting at the top of his voice.

Oct. 10.—Since September 25th has been violent most of the time. Sedatives, and, later, milk punches were administered without relieving the mental excitement or insomnia. I also injected $\frac{1}{3}$ grain of morphine hypodermically every four hours, which caused eight hours of sleep after the third injection.

Oct. 12.—Much better this A. M. For the first time since admitted is able to hold knife in paralyzed hand.

Oct. 14.—Walked several steps without support.

Oct. 20.—Marked mental improvement.

Nov. 1.—Able to walk about the ward without aid. Transferred to convalescent ward.

Nov. 17.—Had several fits last night. Hemiplegia returning.

Nov. 19.—Had five fits in one hour, yesterday.

Nov. 20.—Hemiplegia complete. Intellect not so much disturbed as when admitted.

Dec. 2.—Had no fits since November 20th, and has been improving ever since.

Dec. 5.—Paralysis disappearing; is able to walk alone.

Dec. 20.—Had no fits the past month; is able to be about all day. Is very talkative, and at times emotional.

Dec. 29.—Marked improvement. He is allowed the liberty of the grounds. From this date he improved rapidly, and had no more fits until he eloped January 15th, walking eight miles to Chicago, where he remained. On February 13th the fits returned with great frequency and severity, the hemiplegia manifesting itself after the first fit. He soon became unconscious, and died several minutes after a severe fit, February 15th.

This case, aside from its general interest, illustrates the positions of trust sometimes filled by persons of a highly insane neurusis. For many years he followed the calling of locomotive engineer, and when admitted he had in his possession letters of recommendation from railroad superintendents of some of the leading railroads in the United States. A previous attack of insanity, and a marked hereditary taint should hardly be regarded as qualities fitting a man to hold a position where the destinies of hundreds of lives are frequently placed in his sole care. How

some sudden danger might have developed insanity is illustrated by the case of Von H., a German locomotive engineer, running out of Paris, France, who went insane during a railroad collision, the result of misinterpreted orders. He was for two and a half years an inmate of an asylum in Paris, when he was discharged as "recovered."*

The statement of M. Esquirol, that persons born before the development of insanity in the parents are less subject to mental disease than those who are born after the malady has displayed itself, I regard as due in some instances to the fact that the insanity in the parent may have originated after the birth of some of the children. In some cases, the children born previous to the development of insanity in the parents are completely free from hereditary taint. A patient treated here illustrates the point:

Case V.—J. B., aged seventeen years, admitted February 13, 1879, with the following history: He was always regarded as dull, and could not keep up with his classes while at school; was always quiet and inoffensive, preferring solitude to companionship. He had the exact features of his father, a sober, industrious man, with a good family history, whose sanity was never questioned until after he met with a severe accident, nine years previous to the birth of the patient, when he sustained a severe fracture of the skull as a result of a kick by a vicious horse he was grooming. He was carried to his home in an unconscious condition, in which he remained for several days. Upon regaining consciousness it was discovered that his mind was shattered to such an extent that he did not recognize his friends. He was sent to an asylum in Scotland, from which he was discharged greatly improved, at the end of seven years. Two years after his return home the subject of this history was born; shortly afterward his father grew worse, and was re-admitted to the asylum, where he died demented four years later. Three sisters and one brother to J. B., born previous to the injury to their father, which was regarded as the sole cause of his insanity, are living and well, presenting no perceptible indications of an in-

* The patient is at present an inmate of this asylum.

sane neurosis. If the insanity in the father was due entirely to the injury he sustained, the children born previous to that event are entirely free from an inherited neurosis. The form of insanity in J. B. was mania, at times very acute. He manifested homicidal tendencies, and imagined that he was followed by detectives seeking nis destruction. He commenced to improve shortly after his admission, and was discharged as "recovered" July 1st, 1879.

Members of Insane Families not Themselves Insane.—While certain members of a family predisposed to insanity become insane, others pass through life without insanity developing. Such persons are frequently spoken of by their associates as nervous, peculiar, or eccentric; they have unstable nervous systems, and poorly balanced intellects, escaping insanity in some instances by the absence of sufficient exciting causes. Innumerable examples of this class of persons are noticed among the blood relatives of the insane while visiting the asylum. No one who has come in contact with these people, especially in asylums, where they are unusually excited, but has had occasion to overlook in them undue excitement, rude manners, and uncalled for criticisms, by remembering that they too were the victims of an inherited predisposition to mental disease, awaiting, perhaps, some trifling cause to develop active insanity. Some of these people are a source of great annoyance to asylum authorities, rushing into print and telling unheard of stories of cruelty and neglect, which are generally proven entirely false if thoroughly investigated. An unusually troublesome relative of this class has frequently complained of the management of every asylum her relative was ever an inmate of, going so far as to interview personally nearly every member of the board of commissioners, writing articles to the public press, all because her son did not display the amount of adipose she had expected he would.

Exciting Causes.—The exciting causes in persons hereditarily predisposed to mental disease are very variable. In some instances the most trivial causes, such as would not affect a healthy mental organization are sufficient to destroy the equilibrium of these poorly balanced minds. To illustrate what slight causes are sometimes sufficient to develop insanity in such persons, I

will briefly report two cases that came under my observation in this hospital:

Case VI.—J. W., an individual of this class who had a sister, uncle and several more distant blood relatives insane, had a son meet with a railroad accident, necessitating the amputation of one of his arms. He refused to be consoled, quit his work, and has never worked any since. That the father of a large family depending upon his daily labor for support should refuse to be comforted and lose his reason because of an accident (not fatal) to one of his sons is strong evidence of his unstable nervous organization. The increased responsibilities would have stimulated a healthy mind to greater exertions to provide for his family, and alleviate the sufferings of the son.

Case VII.—P. B., aged eighteen years, whose father was insane for a short period, and an inmate of an asylum forty years ago, whose oldest brother committed suicide by dividing the radial artery and bleeding to death, whose maternal grandmother was insane for thirty years previous to her death, and whose mother, for many years previous to his birth, was at times insane, was admitted to the asylum April 15, 1880. It will be seen that several ancestors on paternal and maternal sides were insane, the entire history pointing to a strongly inherited neurosis. Eleven months previous to his admission here he arrived in America, and almost immediately afterward found employment, but entertaining the most extravagant ideas of the ease with which fortunes were amassed in America, he became greatly depressed on finding that he had to work hard to provide the necessities of life. He conceived the idea that God had forsaken him, and that having to contend against the displeasure of his Maker, he had better sacrifice his life to appease His wrath. With this end in view he tried every means at his command to put an end to his existence, abstaining from all food and constantly looking for an opportunity to commit suicide. The predisposition to mental disease must indeed be strong in a young man with no one but himself to provide for, and without meeting with any of the innumerable hardships through which persons with well-balanced minds frequently pass without the slightest danger to their mental equilibrium, allows the ordinary disappointments

which every immigrant has to overcome, so to prey upon his mind that he believes himself the most unfortunate of beings, whom the very Deity has forsaken. When slight causes, such as would make no unfavorable impression upon a healthy mind are the exciting causes of insanity, it is always well to look carefully for an inherited predisposition to insanity.

In a number of cases in which especial attention was paid to exciting causes, it was noticed that the greater the inherited predisposition, the milder the causes sufficient to develop insanity.

The following table will show the supposed exciting causes in fifty male patients admitted with a history of hereditary predisposition :

TABLE II.

Disappointed affections	1	Masturbation	6
Domestic troubles	5	Overwork	1
Epilepsy	4	Poverty	3
Excesses	2	Religious excitement	3
Financial	10	Traumatic	1
Grief	1		
Intemperance	13	Total	50

In thirty-four cases, or a trifle over seventy-five per cent. of the total number, intemperance, financial troubles, masturbation and domestic troubles were regarded as exciting causes. Intemperance was an exciting cause in thirteen cases, or over twenty-five per cent. It would be interesting to know in what percentage, if any, the taste for alcoholic stimulants was hereditary, but unfortunately the histories do not embrace this point. Financial troubles were exciting causes in ten instances. Reverses in fortune are especially hard to bear by persons of delicate mental organizations, hence their frequency as exciting causes. Instead of the reaction which usually follows in healthy minds, in the naturally weak textural changes take place, which interfere with or prevent reaction taking place. In this manner persons of this class have been known to become permanently demented immediately after sudden reverses in fortune.

Masturbation was regarded as an exciting cause in six cases. I have no doubt that the inherited nervous temperament in some of these led to the practice of the vice; add to this an inherited weakness of will power, and we can understand why when once learned, the practice is rarely discontinued before the mental faculties become greatly impaired or totally destroyed.

In the five cases in which domestic troubles were regarded as the exciting causes, in two instances the family troubles were directly traceable to the nervous temperament and abnormal conduct of the party with an inherited neurosis.

A case illustrating how an insane temperament may cause domestic troubles, came to my notice in a patient who was recently discharged as "recovered," in whom the exciting cause was regarded as domestic troubles, because he and his wife had led very unhappy and quarrelsome lives for several years previous to his admission to the asylum, and long before he was suspected of being of unsound mind. Just previous to his discharge, and when fully restored to reason he informed me one day that he would tell me the cause of his unhappy domestic relations. He said: "I am naturally of a jealous disposition, and when I married a wife ten years my junior I was very jealous of her. On returning from work one evening, several years ago, I found her sitting in the parlor entertaining a gentleman friend of the family's who had taken the trouble to look us up and make a call. The moment I saw him with my wife the idea entered my mind that he had called upon her in my absence for improper purposes."

From that moment he suspected his wife of being unfaithful, and watched her every action. His wife, noticing his changed manner toward her, unconscious of any wrong on her part, and not aware of his weak mental condition, resented his slights and insinuations, and hence their unhappy domestic relations. The case entered as traumatic is that of a patient who became insane during an attack of erysipelas of the face and head following an injury.

General Health.—The general health is almost invariably somewhat impaired in persons hereditarily predisposed to insanity, especially after the development of the malady; so frequently is this the case that in seventeen of the forty-one cases recorded in Table I, the general health was greatly impaired. The following physical peculiarities were also noted:

In case 1, general anæmia, right hemiplegia. In case 4, general anæmia, neurasthenia. In case 5, emaciation, inanition,

vaso-motor paralysis. In case 6, general anæmia. In case 7, partial muscular paralysis, both extremities. In case 9, irregular dilatation of pupils, locomotor ataxia. In case 11, irregular dilatation of pupils, frontal headache. In case 13, headache, not localized; tongue tremulous. In case 14, tongue enlarged, indentation of teeth along the sides. In case 15, anæmia, neurasthenia. In case 16, constant frontal headache, valvular heart lesions. In case 18, intermittent headache. In case 18, neurasthenia; indentation of teeth sides of tongue.

Cases 11, 16, and 18 complained of headache. This percentage is considerably larger than among the insane generally. It is remarkable how seldom the inmates of asylums complain of headache. At the present writing there are but two male patients in the entire asylum who have sufficient pain in the head to cause them to apply for relief, and during the past three months I have had more calls from patients themselves to prescribe for colds than headaches. And even persons in whom headache is a prominent symptom previous to the development of insanity are not infrequently entirely free from this symptom during an attack.

Case VII.—O. B., printer, lost several days each month on account of severe headaches, which obliged him to take to bed. He has not complained of this symptom since admitted to the asylum several months ago, and just previous to his discharge as "recovered" he informed me that he had had no "pain in the head" since admitted, and that the only head symptom he experienced was a feeling of fullness, as if the brain was larger and heavier than formerly. This sensation was no doubt due to cerebral congestion. General, and especially cerebral anæmia is a frequent symptom. In melancholy patients the anæmia frequently, is a result of an insufficient quantity of nourishment taken for weeks, and even months previous to complete abstinence, imagining that the food was poisoned, or mixed with disgusting matter, such as human flesh or even feces. Six of the patients in Table I were neurasthenic previous to being regarded as insane. This is quite a common affection among persons who

have inherited an unstable nervous system. That the entire nervous system is predisposed to disease is proven by the prevalency of hysteria, epilepsy, chorea, and other nervous affections among the blood relatives of the hereditary insane. Constipation is frequently met with in cases of melancholia and acute mania, and a marked mental improvement sometimes follows the administration of a brisk cathartic. Some of the remaining most constant symptoms are vasor-motor paralysis and enlarged, coated or tremulous tongue.

Peculiarities of Development. The arrest of cranial and sometimes general development among imbeciles, idiots, and especially "cretins" are so marked that there is no possibility of mistaking them. A large percentage of the feeble-minded children in the asylums for the feeble-minded present physical defects in the cranial and general development, but the percentage of deformed feeble-minded children is much greater outside these institutions, which refuse to receive epileptic or greatly deformed idiots, as the institutions are intended for that class of feeble-minded children only who, with proper instruction and training, are capable of becoming self-supporting under proper supervision; this, of course, excludes all the lower grades of idiots, who are most frequently deformed. The physical defects among idiots of the lowest grade are frequently so marked as to suggest at a glance, even to the minds of people outside of the profession, imperfect cerebral development. If these patients, who are not infrequently the offspring of insane parents, carry in their very appearance a diagnosis of their disease, it would seem most probable that the inheritors of an unstable nervous system, predisposed to mental disease, would present some physical peculiarities characteristic of an inherited neurosis.

To determine what physical peculiarities, if any, existed among this class of people, I prepared the two following tables, which show the cranial measurements, height, weight, color of eyes, color of hair, and asymmetrical development, of forty insane patients, in twenty of whom the disease was regarded as having originated *per se*, with the following results:

TABLE III.

INSANITY HEREDITARY.

No.	"1."	"2."	"3."	"4."	"5."	"6."	"7."	"8."	"9."	"10."
1	22¼	12	11	11	13¼	5.11	150	Black.	Brown.	
2	22¼	12½	11½	11	13½	5.8	145	Brown.	Brown.	Fullness right side of head.
3	21½	12¼	11	10½	13	5.7	155	Brown.	Blue.	
4	21⅜	12	11¼	10½	14	5.7	155	Brown.	Brown.	Left frontal and occipital contr'c'n.
5	22	13	11½	11	13¼	5.9	130	Black.	Brown.	
6	22¼	13	11½	11	14	6.1	165	Brown.	Blue.	
7	22½	12	11½	10¼	13	5.5½	135	Brown.	Brown.	Rt. frontal contraction.
8	21⅝	12	11	12⅜	12½	5.10	160	Light.	Blue.	Fullness right side of head.
9	23	13	12	12	13⅜	5.7½	145	Light.	Blue.	
10	22⅜	13	12	10½	13½	5.9½	158	Brown.	Brown.	
11	22	12	11½	10	13½	5.8	130	Brown.	Blue.	Left frontal fullness.
12	21½	13	11¼	9½	13½	5.4⅜	118	Brown.	Brown.	Left frontal fullness.
13	22	12	11	12	13½	5.9	135	Gray.	Blue.	
14	21½	12½	11½	10¼	13	5.8	135	Brown.	Blue.	
15	22½	14¾	12	10	14½	5.2	123	Light.	Blue.	Parietal bulging.
16	22	12⅜	11	12½	14	5.4	130	Gray.	Blue.	
17	22	11½	11	11½	13	5 6½	135	Gray.	Blue.	
18	22¼	12	11½	11	14	5.9	170	Brown.	Brown.	
19	22½	12½	12	10½	14	5.9	145	Black.	Brown.	Contr'c'n right part parietal region.
20	23	13	12	11	14¼	5.8	175	Brown.	Blue.	Left parietal contraction.
	22⅛	12½	11½	11	13½	5.7½	144 7-10			—Average.

TABLE IV.

INSANITY NOT HEREDITARY.

No.	"1."	"2."	"3."	"4."	"5."	"6."	"7."	"8."	"9."	"10."
1	21½	12½	12	10	13	5.2½	120	Brown	Blue.	
2	22	12¼	12⅜	10½	13	5.8	145	Brown.	Blue.	
3	22	12½	11¼	10½	12¼	5.6½	135	Black.	Brown.	
4	23¼	12½	11¼	11⅜	12½	5.5½	170	White.	Blue.	
5	22	12	11	10¼	13¼	5.11	160	Brown.	Blue.	
6	22½	12½	11⅜	10½	12½	5.8	140	Brown.	Brown.	
7	23½	13	12	11	13	5.6½	155	Brown.	Blue.	
8	21	12	11	10	13	5.4½	130	Brown.	Blue.	
9	21½	12	11	10¼	12¼	5.5	135	Brown.	Brown.	
10	23¼	13	11½	12¼	14½	6.	170	Light.	Blue.	
11	23⅜	13⅛	12¼	11	13	5.6½	160	Brown.	Blue.	
12	22⅜	13	11	11¾	14	5.7¼	145	Sandy.	Blue.	
13	22⅛	12	11⅜	11	13	5.9	140	Brown.	Blue.	Contracted right eye and forehead.
14	21⅝	13	11½	10¾	14	5.9	140	Grey.	Blue.	
15	23½	13¼	13	10½	14	5.9	155	Brown.	Blue.	Parietal region contracted.
16	21¾	14	11¼	10¼	14¼	5.9	140	Brown.	Blue.	Parietal region bulging.
17	22¼	12½	11½	10	14¼	5.5	135	Light.	Blue.	
18	21¾	12½	11⅛	10½	13¾	5.5	130	Brown.	Blue.	Fullness entire left side.
19	22¼	11½	11	11	13½	5.6	145	Brown.	Blue.	
20	22	12¼	11½	11	14	5.8	150	Brown.	Blue.	
	22¼	12½	11½	10¾	13⅜	5.7	146			—Average.

EXPLANATION OF TABLES III AND IV.

"1." Circumference of head on a line with nasal eminence and ext. occip. protuberance.

"2." From ear to ear over parietal region.

"3." From ear to ear over nasal eminence.

"4." From ear to ear over ext. occip. protuberance.

"5." From nasal spine to ext. occip. protuberance.

"6." Height.

"7." Weight.
"8." Color of hair.
"9." Color of eyes.
"10." Asymmetrical development.

By comparing the tables it will be seen that the average cranial measurements are very similar, and do not show any difference in the general size of the crania. The "height" and "weight" were remarkably similar, there being an average difference of less than two pounds in the weight, and but four-fifths of an inch in the height, showing that there is no general arrest of development characteristic of an inherited insane neurosis, and that while the nerve tissue may be ever so predisposed to disease, there generally is an average cranial development.

While the tables do not show any general arrest of development, they do show a marked difference in the asymmetrical development. Thus in Table IV the cranial development was symmetrical in all but cases 13, 15, 16 and 18, while in Table III an asymmetrical development was noticed in nine cases, nearly fifty per cent. of the total number examined.

The unequal developments in Table IV were as follows:

Case 13.—Contracted right eye and right side of forehead.

Case 15.—(An epileptic patient) parietal regions contracted; more marked on left side.

Case 16.—Parietal regions bulging; more marked on right side.

Case 18.—Entire left side of head enlarged.

In Table III they were:

Case 2.—Right side of head enlarged, especially noticeable in frontal region.

Case 4.—Left frontal and occipital contraction.

Case 7.—Right frontal contraction.

Case 8.—Fullness entire right side of head.

Case 11.—Left frontal fullness.

Case 12.—Left frontal fullness.

Case 19.—Contraction right part, posterior parietal region.

Case 20.—Left parietal contraction.

Aside from the asymmetrical cranial development there is frequently a difference in the development of the two sides of the face, especially noticeable in the wrinkles on the forehead, and the lines extending from the alæ of the nose to the angle of the

mouth, so that in some instances the patient presents an appearance somewhat similar to that seen in hemiplegic persons where the muscles of one side of the face are slightly involved. While the above peculiarities of asymmetrical development are most frequently met with among the insane in whom the malady is hereditary, they are all met with in persons of sound mind without any inherited or acquired predisposition to insanity. A want of symmetry in the cranial development cannot therefore be regarded as an invariable evidence of an insane neurosis or liability to mental disease, and yet its greater frequency among the hereditary insane should not be overlooked as an element in forming an opinion as to the probability of insanity developing as well as suggest early treatment to avert an outbreak of insanity.

TABLE V.

INSANITY HEREDITARY.

No.	Recovered.	Improved.	Unimproved.	Died.	Eloped.	Number of months in Asylum.	Re-admitted.	Sent to State Hospital.	Here.
1					1	4			
2	1					8			
3	1					4			
4						10		1	
5		1				5			
6				1		1			
7		1				2	1		
8		1				2			
9				1		4			
10		1				3	1		
11		1				2	1		
12				1		4			
13		1				1	1		
14			1			4			
15									1
16						3		1	
17	1					1			
18	1					3			
19		1				4			
20		1				4			
21						8		1	
22		1				1	1		
23			1			3			
24						7		1	
25				1		5			
26				1		7			
27					1	8			
28	1					3	1		1
29			1			6	1		1
30	1					3			
31				1		4			
32	1					4			
33		1				6	1		
34	1					5			
35		1				1	1		
36				1		3			
37			1			2			
38		1				24	1		
39		1				24	1		
40		1				4	1		
Total	8	14	4	7	2		12	4	5

Prognosis. The prognosis as to a first recovery would seem to be more favorable in persons hereditarily predisposed, as will be seen by comparing Tables V. and VI. comprising forty patients of either class.

TABLE VI.

INSANITY NOT HEREDITARY.

No.	Recovered.	Improved.	Unimproved.	Died.	Eloped.	Number of months in Asylum.	Re-admitted.	Sent to State Hospital.	Here.
1									1
2				1		1			
3					1	10	1		1
4	1					1			
5									1
6			1			4			
7				1		1			
8	1					1			
9				1		1			
10		1				12			
11	1					3			
12		1				4	1		
13				1		1			
14		1				3			
15			1			9	1		1
16									1
17						2		1	
18				1		20			
19		1				3			
20					1	3			
21		1				12	1		
22	1					2			
23						1		1	
24	1					3			
25		1				1			
26						8		1	
27	1					3			
28									1
29									1
30						5		1	
31				1		1			
32				1		1			
33									1
34									1
35		1				10	1		1
36				1		2			
37		1				4			
38		1				18			
39		1				10	1		1
40		1				2			
Total	6	11	2	8	2		6	4	11

INSANITY HEREDITARY.

Average number of months in asylum of those discharged, recovered, 3⅜.

Average number of months in asylum of those discharged improved, 5⅜.

Average number of months in asylum of those discharged unimproved, 3 4-5.

Average number of months in asylum of those who died, 4.

Average number of months of those sent to State Hospital, 6.2-5.

INSANITY NOT HEREDITARY.

Average number of months in asylum of those discharged recovered, 2.

Average number of months in asylum of those discharged improved, 11 2-7.

Average number of months in asylum of those discharged unimproved, 6½.

Average number of months in asylum of those who died, 3½.

Average number of months of those sent to State Hospital, 5⅜.

RECAPITULATION OF TABLE V.

Discharged recovered, 8; improved, 14; unimproved, 4; died, 7; eloped, 2; re-admitted, 12; sent to State Hospital, 4; remaining, 5.

RECAPITULATION OF TABLE VI.

Discharged recovered, 6; improved, 11; unimproved, 2; died, 8; eloped, 2; re-admitted, 6; sent to State Hospital, 4; remaining, 11.

By comparing Tables V and VI, it will be seen that twenty-two of the former, and seventeen of the latter were discharged as recovered and improved, tending to show that the percentage of first discharges are in favor of the former class. While the percentage of discharges was greater in the former, it will be noticed in the same tables that the improvement was less permanent, as twelve of the former and but six of the latter were re-admitted to the hospital. The principal reason of this fact I regard as the difference in the exciting causes sufficient to produce insanity in the two classes, as well as the impossibility of removing the inherited predisposition to mental disease in the first class. And even when a cure is effected in the former, that is, when the brain is restored to its normal action, some slight excitement may at any time disturb its equilibrium, while in the patients not hereditarily predisposed, if the brain can be restored to its normal condition, it is able to resist an exciting cause, that would be sufficient to again disturb a naturally defective organ. The number of deaths were nearly the same in both classes. The causes of death call for no special explanation, excepting case 13 of Table VI, where suicide by hanging caused death by strangulation. The average time in asylums of those discharged "recovered" was considerably longer in the former class. The only explanation of this fact that I can advance is the relative recuperative powers of a naturally healthy and a naturally weak organ just as a pair of naturally weak lungs are longer in completely

recovering from an attack of pneumonia or bronchitis, than vigorous, healthy organs. According to the tables, a larger number of the second class become permanent charges of insane asylums, as five of the former and eleven of the latter at present remain in the asylum.

The conclusions drawn from the tables are that patients with an inherited neurosis have a greater chance of a first discharge than others, but that they are more liable to relapse, owing to an inherited unstable nervous system.

Treatment.—The preventive treatment is generally in the hands of the general practitioner, hence a knowledge of the manifestation of the disease and the treatment adopted after the case passes out of their hands into that of the specialist in some hospital for the insane cannot fail to be of interest. Preventive treatment should commence with infancy and extend through life, and should aim to meet the following indications:

First. Improve the general health.

Second. By judicious training strengthen the mental faculties, the better to enable them to resist disease.

Third. Guard against excesses and abuses, especially of the sexual organs.

Fourth. Place them in positions where they can avoid all sources of excitement and excessive mental work.

To improve the general health, which (as has already been stated), is generally impaired, is of the greatest importance, as just in proportion to the improved health is the nervous system able to resist disease. Of all the means at our command to improve the general health of a nervous child nothing can compare with plenty of pure air, out-door exercise, and plain, unstimulating diet, as may be seen in the improvement in appearance, appetite, vigor and spirits of a nervous city child on returning from a summer vacation in the country; and even later in life, when from close confinement and overwork the general health becomes impaired, what can compare with a country vacation for the class that cannot afford the luxury of foreign travel?

The mind may be strengthened, and better enabled to resist disease by a careful training during the period of development, while the character is being formed. The greatest care should

be exercised in selecting associates, teachers and schools for the persons predisposed to mental disease. The ordinary boarding schools (especially for females), would seem to be about the most objectionable that could possibly be selected. In proof of this assertion, notice the anæmic, and at times neurasthenic condition of the average female graduate. A school should be selected in a healthy locality, where due regard is paid to physical exercise, with positive instructions not to allow over-study. For the children of the poorer classes who attend school at intervals only for a few years before they are called upon to assist in the support of the family, the public schools afford the only means of acquiring even a rudimentary education. Previous to the ages when children are sent to school, in fact from the earliest manifestation of the emotions and passions a careful watch should be exercised, to avoid all causes of excessive emotional outbreaks, and firmly checking them when displayed without cause. Even in very small children bursts of passion can be controlled by firmness on the part of parents, which, if yielded to might lead to a life of misery and mental disease. "The habit of yielding to a natural infirmity of temper often leads into paroxysms of ungovernable rage, which, in their turn, pass into maniacal excitement."*

The abuse of the sexual organs I believe to be more frequently indulged in, and more serious to the mental health of nervous children than others, hence great care should be exercised in excluding every cause tending to stimulate the sexual passions; obscene literature, improper associates, stimulants and sedentary habits should be carefully guarded against. A plain statement on the part of the parents or physician as to the true functions of the organs of reproduction and the dangers to health and happiness following their abuse should be enforced. Every cause calculated to unduly stimulate or to direct the attention of an excitable youth to the genitalia should be guarded against.

To place persons predisposed to insanity in positions where they can avoid excessive mental work and sources of dangerous excitement, great care should be exercised in the selection of a trade or profession. No rules governing every case can be laid

* Carpenter's Physiology.

down; as no two persons are exactly alike, so every case must be made a special study of, and every possible influence bearing on the case must be taken into consideration in making a selection. It is safe in every case, however, to avoid callings requiring severe continued mental work, or one subject to great uncertainties and sudden reverses. In fact, the quieter such persons pass through life, and the more they avoid all sources of excitement, the greater are their chances of passing through life without any manifestation of insanity.

The curative treatment is usually administered in hospitals for the insane, as but a very small percentage of cases amenable to treatment could possibly be treated at home, owing to the acute nature of the symptoms. The treatment is necessarily very different even in similar forms of insanity, owing to the difference in the general health, age, etc. The same general principles which govern the treatment of diseased conditions in other organs should be carefully observed. Congestion is to be relieved. In anæmia, food and medicine calculated to improve the quality of the blood are to be prescribed. One of the chief duties of the general practitioner when called upon to examine an insane person is to decide whether home treatment, or removal to an asylum is to be recommended. As a rule, a removal of the patient from home and friends is to be advised, as they not infrequently have some delusions regarding some member of the family or dear friend, whose constant presence and efforts to alleviate the sufferings of the patient are misconstrued into evidences of their insane imaginations. I have seen a number of patients admitted to asylums hopelessly insane, who, by a timely removal to some retreat would undoubtedly have recovered. The mistaken kindness of keeping insane persons at home has protracted or prevented many a cure. Any physician who has been called upon to treat many cases of acute melancholia will bear me out in this statement, when he recalls the difficulties he encountered in attempting to administer food or medicine to these patients, surrounded by sympathizing friends, and should a patient refuse food entirely, and the use of a stomach tube become necessary, it would be almost impossible in some families to get the necessary assistant to perform even this simple oper-

ation. The danger of homocidal or suicidal tendencies developing must be taken into consideration. From what I have seen of insane persons outside of asylums, especially among the poor, I have become satisfied that the chances of recovery are far greater in asylums than at home. It must also be remembered that the blood relatives of a person suffering from an inherited disease are themselves tainted with the same affection, hence the dangers to them of home treatment must not be overlooked in deciding upon the course to be pursued. The annoyance and danger to society of a raving maniac, making night hideous with his cries, and day dangerous by his effort to carry out some homicidal delusion is also a very important factor to take into consideration, and it not infrequently transpires that society, recognizing these dangers, enter complaint and cause an investigation into the sanity of persons, against the expressed wishes of their friends. There is one important factor in the treatment of the chronic insane with considerable physical strength that is not sufficiently called into requisition, viz., active out-door exercise. I have noticed that patients who are daily employed in out-door work almost invariably improve while thus employed. I called attention to this fact in an article on "Masturbation Among the Insane," in the October (1879) number of the *Journal of Nervous and Mental Disease*, as follows: "Exercise carried to fatigue I regard as an important element in the treatment; daily out-door employment should be insisted on if practicable. Several patients of this class derived marked benefit last summer while digging a long ditch; the work was laborious, and while it prevented masturbation during the day, it produced such fatigue that they were glad to rest at night."

Since then I have had abundant opportunities to notice the good results following out-door employment in all forms of chronic insanity when the physical condition would permit its employment. A year ago about thirty patients were employed nearly four months digging trenches for a sewer over four miles long. At present, twenty-five patients are daily employed in excavating on the site for the new Cook County Infirmary. Patients with chronic mania of many years duration, in whom the prognosis as to recovery was regarded as very unfavorable,

have been discharged as recovered after several months of active out-door employment. One of these cases was quite remarkable, and is briefly reported.

Case VIII.—J. K., aged twenty-eight years, admitted February 18, 1873, entered in the register as "mania," was for years the most unmanageable patient in the entire institution, and dreaded by the attendants on account of his violence and great strength. After a few years he settled down into chronic mania of rather a violent type, in which condition he remained without any apparent change until the summer of 1879, when he worked steadily for four months digging a ditch. While thus employed he commenced to improve, the improvement continuing the following winter, and he was discharged recovered April 24, 1880. When I last heard from the patient, about six months ago, he was working every day, enjoying excellent general health. A number of equally interesting cases could be cited if space would permit.

Insane persons on arriving at the asylums as inmates are usually carefully examined, and everything with which they could injure themselves or others is removed. They then take a bath, after which they are classified, or in some institutions sent to the ward for new patients. In this institution the patients are classified into eight grades (some hospitals have more), ranging from the convalescent ward to the ward for chronic dements. While it is true that "asylum life as at present constituted is unnatural, narrow, barren and mechanical," yet the asylums of the country afford places of shelter and safety to many thousands of diseased and troubled minds which it would be impossible to care for at home, and let us hope that the day is not far distant when the system for caring for the insane shall be so improved as to realize the highest ideal possible of attainment.*

* See Dr. Dewey's article on "The Present and Prospective Management of the Insane."—*Journal of Nervous and Mental Disease*, 1878.

ARTICLE II.

LARYNGEAL HÆMORRHAGE.

By JEFFERSON BETTMAN, M.D., Acting Resident Medical Officer to the Throat and Chest Hospital, Golden Square, W., London, etc.

On account of the meager literature on this subject and the undue importance which could easily be attached to such a symptom, the cause remaining unrecognized, the following case, which lately came under my observation may not be without interest or devoid of some practical bearing.

Mrs. C. B., aged forty-five, a widow, mother of four children, has enjoyed, up to recent date, comparatively good health being troubled only now and then with attacks of rheumatism. She is more or less subject to colds and during the past few winters has suffered from cough with little expectoration. Family history good; parents died at a ripe old age; children healthy; husband was killed at a railroad accident. Her present illness began a week ago, and, according to her statements, seems to have been brought on by exposure to a draught. The following day she experienced a feeling of heat and slight constriction in the throat. Her voice became husky, a short, hacking cough set in. During the course of the next few days these symptoms were aggravated; her throat and chest became very painful, cough very harassing with little or no expectoration. On the eve of the fifth day, during an almost suffocating paroxysm of cough, she suddenly began to expectorate blood, which though at first small in quantity gradually increased in amount and reached, according to her statements, in the aggregate during the same night to more than half a teacupful. She now felt an intolerable burning in the throat, to use her own expression, "as if something were passing down the wrong way." Matters only became worse; she continued to expectorate fluid blood, grew feverish and quite weak.

Status præsens. Patient seems poorly nourished and is in a pale, anæmic state. Breathing not perceptibly disturbed, voice is almost aphonic and conversation can only be carried on with visible exertion. Complains of tickling in the throat and a burn-

ing pain over the sternum. While interrogating her, patient had a violent attack of coughing, explosive in its type. During the paroxysm she coughed up about half a teaspoonful of blood. I thus had opportunity to study the true character of the expectoration. It consisted, excepting a few dark brown crusts, of pure, fluid blood, bright red in color. Pulse slightly accelerated, temperature normal. After careful examination the thoracic organs were found to be healthy. Rhinoscopic examination both anterior and posterior revealed nothing abnormal. Mucous membrane of mouth and naso-pharynx, pale and glistening. Patient was very nervous and the throat so irritable, that I succeeded only after repeated attempts in getting a satisfactory view of the larynx and trachea—amply sufficient, however, to remove all doubts regarding the cause and true state of affairs. The entire laryngeal mucous membrane and that of the trachea as far as I could see, was uniformly congested, deep red in color and here and there covered by small dark brown crusts. The vocal cords were very hyperæmic, the free borders very much thickened and slightly irregular. Arytenoids and inter-arytenoid fold were involved in the intense congestion. The ventricular bands however presented the interesting and main feature of the case. They were almost livid in color, very much thickened, overlapped in part the vocal cords and completely obliterated the ventricles. They were in part covered with fresh and dried blood. With a good light, the superficial vessels of the congested mucous membrane could be easily seen as dark tortuous lines converging toward two bleeding spots seated symmetrically on the lateral surfaces of the ventricular bands. These spots were indicated by two small coagula, the size of split peas. Epiglottis congested, crest slightly thickened.

Diagnosis. Acute laryngo-tracheitis, rupture of small vessels and subsequent hæmorrhage from ventricular bands.

Tveatment consisted, locally, in a light application of nitrate of silver (fused on a laryngeal probe) to the bleeding spots. The main treatment, however, was directed toward the "fons et origo mali"—the laryngo-tracheitis and consisted in mild laxatives, inhalations of vapor of benzoin, pellets of ice and a cold water dressing to the neck.

The application of these remedies was followed by great and rapid amelioration of all the symptoms. Two days later I again saw the patient. There was great improvement in her general physique; cough, though still present, was much less troublesome; all bloody expectoration had ceased. With the aid of the laryngoscope, the cords were found much less injected, the ventricular bands reduced in size and the sites of the former hæmorrhages occupied by two small, white eschars. She rapidly recovered and about a fortnight later had regained her normal voice; the larynx, barring a slight congestion of the mucous membrane, had taken on its natural appearance.

Laryngeal hæmorrhage, due to direct traumatic influence, is not, an uncommon occurrence and many instances have been recorded. It can be easily understood how foreign bodies inpacted in the larynx or trachea can produce hæmorrhage by lacerating the tissue. Gross* has recorded such a case, where a boy, aged three years, received into his air passages a peice of bone and suffered at imtervals during a period of sixty years, from hæmoptysis, cough, dyspnœa etc. The same condition may arise after wounds or bruises of the larynx and several observations are cited in literature where hæmorrhages were induced by ulcerative processes. In a case of Tuerck's† syphilis of larynx, the bleeding had a fatal termination. The extensive ulceration involving the right sinus pyriformus not only exposed the greater corner of the hyoid bone, but produced erosion of the lingual artery with above mentioned result. Independent of any extraneous causes or ulcerative action, laryngeal hæmorrhage is of rare occurrence. I of course exclude all cases of hæmorrhage into the submucous connective-tissue, occurring occasionally in variola hæmorrhagica (Bogros‡) and scorbutus (Ruehle§) and limit myself entirely to such complications as arise during the course of an acute inflammatory congestion. In the case under discussion the sudden onset of a bloody expectoration in an acute laryngitis is as rare as its individual features and clinical history are interesting.

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* "Foreign Bodies in the Air-Passages" p. 172, Phila., 1854.

† "Klinik der Kehlkopfkrankheiten" S. 402.

‡ Vide Sestier, "Traité de l'angine laryngée œdémateuse" pp. 63 and 114. Paris, 1852.

§ Kehlkopfkrankheiten S. 172.

The symmetrical position of the bleeding spots is probably due to the fact, that during the paroxysms of cough, the swollen and congested ventricular bands were tightly pressed against each other, an erosion of epthelium followed by rupture of the turgescent vessels and subsequent hæmorrhage. The trickling of blood into the larynx proved a fresh source of irritation, provoked increased cough; this again favored great congestion with subsequent hæmorrhage and thus a sort of vicious circle was established.

Semelder* has recorded a very interesting case of laryngeal hæmorrhage setting in after violent emesis. He found a mottled appearance (submucous extravasation) of the vocal cords and a small bloody coagulum seated on the anterior extremity of the right ventricular band. He also attributed the sudden hemorrhage to a rupture of congested vessels, induced by the muscular strain during emesis. Navratil† has described a case under the name "chorditis hæmorrhagica." Here the hæmorrhages took place on the upper surface of the cords and after removing the dried crusts the underlying cord was found red and swollen. Lewin‡ has made a similar observation. Mandl§ has seen a hæmorrhage proceed from the ventricles of Morgagni in the case of an old lady suffering from laryngitis. A few years ago Fraenkel‖ published another example of this rare occurrence. He applied the title "Hæmorrhagic Laryngitis" to it, but I fully concur with Dr. Mackenzie¶ "that it is scarcely necessary to give a special name to so rare and accidental a condition." In Fraenkel's case there was also great stridor and dyspnœa and, as he himself adds, in such a case a correct diagnosis could be established without the aid of the laryngoscope.

While in Vienna, another case of laryngeal hæmorrhage came under my notice. The patient had been under the care of Prof. Stoerk for some time. A large papillomatous excrescence had developed on the posterior laryngeal wall, a little below the level of

* Laryngoskopie, Wien 1863 S. 33.

† "Laryngol Beiträge" Leipzig, S. 18.

‡ "Inhalations therapie" S. 328.

§ "Maladies du Larynx" p. 644 Paris, 1872.

‖ "Berliner Klin. Wochenschrift" No. 2, 1874.

¶ "Diseases of Nose and Throat" vol. I. p. 268.

the arytenoid cartilages. The patient as yet presented no sign of pulmonary complaint, still the appearance of the growth and its more characteristic position, was simply sufficient to establish a diagnosis of incipient phthisis (Stoerk*). I followed the case with interest and the Professor kindly placed him under my personal care. One morning the patient looking pale and anæmic came to the clinic and gave the following account: During the night he had a violent fit of coughing; suddenly he felt the sensation "as if something had given way" in his throat, this being followed immediately by a little gush of blood. I immediately examined him with the laryngoscope and was not a little surprised to find a state of affairs, varying considerably from that existing heretofore. The former round, granular looking excrescence was now cleft longitudinally and on the patient's inspiring deeply I found that the fissure extended through the greater part of its substance. The cords, ventricular bands etc, to all appearances perfectly normal, were here and there covered with blood. This condition, occurring inter-arytenoid, has been lucidly described by Stoerk under the title "Fissura Mucosa."†

The fissure was thoroughly cauterized with argentum and all hæmorrhage ceased. It is further interesting to add that a few months later, physical diagnosis disclosed infiltration of apex of right lung.

These excrescences are generally quite firm in consistence, its German term "Schwielen" being quite expressive, and it can be readily comprehended how, during an attack of coughing, its stiff unyielding substance had suddenly given way to the great muscular strain of the underlying laryngeal muscles.

The quantity of blood expectorated in laryngeal hæmorrhages must necessarily vary according to the gravity of each case. In the one published by Fraenkel, the patient at one time coughed up a cupful of blood. In my case the quantity was much less, still the continuous oozing during three or four days was enough to seriously debilitate her.

These cases are however exceptional and judging from the few observations on record, the prognosis as a rule is favorable as

* "Klinik der Krankheiten des Kehlkopfes" Stuttgart, 1876.

† Virchow's Archiv Bd. lx.

regards life. In the more aggravated forms such as in Fraenkel's and Lewin's cases where there was great stridor and dyspnœa, the gravity of the condition is naturally greatly enhanced. Local treatment must consist in application of styptics, or, in severe cases, of caustics to the bleeding points. Ice is a valuable adjunct in the treatment for it not only assists in constringing the vessels but acts very soothingly in reducing the pain and heat of the parts. As mentioned above, the main treatment must be directed towards the cause of the hæmorrhage; if (as it is in the majority of cases), due to acute congestion or inflammation of the larynx, it should be treated accordingly. In the very grave forms where all other resources have proved of no avail, and the stridor and dyspnœa is so great, as to call for rapid action, surgical interference is no doubt indicated. J. B.

I am under great obligations to Dr. Morell Mackenzie, who in this as in former occasions has kindly permitted me to avail myself of his clinical material.

EPILEPSY WITH MANIA CAUSED BY MASTURBATION.

The patient, a girl sixteen years of age, had healthy parents. The labia majora and the introitus vaginæ were enlarged. The menses had been regular. She was found on the street in convulsions, the pupils enlarged. At night she would scream at the highest pitch of her voice, and she said that an alligator was approaching her and about to devour her. She was often unconscious for two hours. After that she had maniacal attacks, and tried to kill everybody present. She moved slowly, and voided the urine eight to ten times a day. At last she was sent to an insane asylum. The physician, who watched her closely, discovered that she masturbated, and she confessed that the attacks had come on after each masturbation. She consented to have her hands secured at night, and the nurse watched her closely in the daytime. After three months she was dismissed entirely well, and comparatively cured of the vice of masturbation.

Notes from Private Practice.

ARTICLE III.

SYPHILITIC CASES FROM PRIVATE PRACTICE. By P. O'CONNELL, M.D.

The following short notes may help to show how erratic and uncertain, as regards time, may be the manifestations of syphilis:

On December 14, 1874, Lilly Mary T., aged fourteen days, at whose birth I attended, and who was free of disease until now, came under my care for impetigo syphilitica. Her mother had had treatment during utero-gestation, though ignorant of her disease, owing to my having seen some condylomata about her mouth one year ago. The father, too, was regularly under treatment and observation. Inunction alone was carried out on the child, and by January 6, 1875, was again well. When just a year old I vaccinated her, and the vaccination was perfectly normal. In February, 1877, she had scarlatina simplex. From December, 1874, to July 4, 1878, when I prescribed for syphilitic headache, there was no evidence of the disease.

On February 11, 1877, and again on October 3, 1879, I delivered the mother, on each occasion, of a living daughter, free of all evidence of the disease. From September 14, 1875, to February 25, 1881, there were no manifestations of syphilis in the mother. Meantime the father continued to manifest the disease from time to time, although under treatment.

Four years after birth the second child showed the first lesion —a roseola syphilitica. At the same time the father had a "skin rash." My information is now obtained from a letter written by the father to me.

The father got his pox about New Year's, 1872. While suffering from the primary lesion, and being under promise of marriage, some wretched man, so-called a physician, advised him to fulfill his promise. This he did, and, within a year, his wife gave birth to an infant, with all the evidence of the disease, and which survived only a few days.

On September 7, 1874, John M., aged twenty-nine years, came under observation. He was extremely emaciated; both legs were quite black; he could neither walk nor stand; hands and feet cold and blue; right eye protruded, staring, motionless—there is paralysis of the third, fourth, sixth, and portio mollis of the seventh nerves; pupils dilated and fixed; speech long, slow, difficult. Was delirious most of the time, especially so at night, when he attempted to walk about. When upright, he walks a few steps, staggers, and falls heavily, where he remains until raised. He falls out of bed on attempting to get out of it. No sensation in the rectum; no control over the sphincters. Is the picture of wretchedness.

Inunction and iodide potassium, with good diet, including whisky, constituted the treatment. By September 30, the eye was retracted and movable; hearing good. He was up and able to move about the house, and could converse freely. Was free of headache, which he says was intense.

The following facts he now communicated to me: He contracted his disease twelve years ago. About July 17 last left hemiplegia came on; he was insensible for three days, and speechless for three weeks. Had some half-dozen fits, the first in May of this year. Had headache for seven years, and always on the right side; it was extremely severe at the time I first saw him, he said. Perhaps this was due to morphia, which he got from a quack, who treated him before me.

His only remaining trouble now was the want of control over the rectum, which was not improved in the least. His appearance was vastly improved. At this stage I lost sight of him. But his mother, whom I met on the street, informed me that he went into the hospital for the bowel trouble; that all his symptoms rapidly recurred and ended in his death in the hospital on

November 25, just two months from the time he stopped my treatment. There was no autopsy.

On August 8, 1875, I saw Mrs. K., aged forty years, and married to her second husband, by whom she was infected, nearly eight years. Since the birth of her last child, four years and three months ago, she has been in bad health. She is aware of the nature of her disease, and says the first lesion noticed by her was sore throat four years ago. Two years and two months ago she got cranial nodes; one and a half year ago some dead bone was removed from the forehead; one year ago some dead bone came away from the left supra-orbital ridge; five months ago resection of the right elbow was performed for caries of the olecranon. There is pain, tenderness and swelling over the nasal bones, and three nodes (soft) on the skull. Nocturnal headache preventing sleep. The thyroid is uniformly enlarged to the size of an ordinary orange, very hard, closely grasping the trachea, rendering respiration very difficult—markedly dyspnœal and stridulous. The trachea is quite tender under the gland. The enlargement began soon after the sore throat was noticed, and has steadily increased since.

Tincture and liniment of iodine, equal parts, externally, and liberal doses of iodide potassium internally, quickly reduced the gland, and I lost sight of her. But I learned on reliable authority that she died of intra-cranial syphilitic disease in 1879.

On February 11, 1876, Thomas G., aged forty-seven, in apparent excellent health, consulted me for a "sore on his arm." He has a papular syphiloderm across the forehead close to the hair, with a few papules near the eyebrows, and three most characteristic rupial sores on the outer side of the right forearm just below the elbow. He has not the most remote suspicion that the present "sore on his arm" and frontal rash are syphilitic.

On closely questioning him, he said he had venereal sore (character unknown) first and last in 1850, or twenty-five years ago. It was treated by caustic of some kind and quickly healed. He positively and emphatically asserts that he had no lesion since of any kind. Green iodide mercury, gr. 1 in pill, every night for a short time, followed by corrosive sublimate and iodide potassium completed the cure by March 13.

Annie G., daughter and only child of the above, aged eight years, a strong, hardy, active, and hitherto healthy child, suddenly sickened at 5 p. m. on November 23, 1873, with severely acute occipital headache, which soon became general. Active delirium, with very severe and prolonged convulsions set in, followed by effusion and death in thirty hours. No autopsy. The sudden onset of the fatal meningitis, for which no cause could be found, puzzled me much. Now I assume, rightly or wrongly, that syphilis caused it.

Mrs. W., aged thirty-five years, infected by her husband eight months ago, came under my care on April 26, 1876. During the six weeks following the date of infection, she said she had chills and fever by day, and especially at night, and a "very disagreeable, nasty looking rash," which, from her description, would seem to be ecthyma. Then followed chancre on the genitals, when the chills and fever ceased. Sore throat followed. A great deal of the hair of the head, and some of her fingernails fell off. Then came vulvar condylomata, which healed one month ago. Had had treatment. On the right olecranon is a superficial rupial scab, from under which flows a stinking sanies. Her chief complaint is of a terrible headache for a month, with "giddiness and lightness," and a fear of becoming insane. Knows the nature of her disease. Prescribed green iodide mercury, corrosive sublimate and iodide potass. during May and June. She proved to be pregnant at this time, and took, during her pregnancy, on and off, a mixture of iodide potassium, corrosive sublimate and tinct. cinchonæ flav., and was delivered, on January 18, 1877, of a boy nine or ten pounds' weight, and free of any sign of syphilis. On July 30, 1878, I prescribed iodide potass. for the child, who was cross, restless, cried at night, and did not sleep until early morning. After this he was quiet, rested and slept well all night. He improved in health and appearance, and was, seemingly, well by August 29. His canine teeth were characteristic of hereditary syphilis.

Early in June, 1876, I attended Mrs. C., aged thirty years, for a miscarriage, at seven and a half months' gestation. The fœtus had been dead about two weeks before expulsion, and I did not see anything special on its skin nor about the mother to at-

tract notice. On December 14, following, she manifested undoubted syphilitic skin-rash. In March, 1880, she had a living child, at term, without manifest disease. I prescribed hydrarg. bi-chloride during pregnancy. On August 14, I saw her husband with a syphiloderm. He drank a great deal, and had "delirium tremens." He was very careless in carrying out treatment, now and then pushing drugs in a reckless and dangerous fashion. I found it impossible to keep him under steady observation, months sometimes going by without seeing him. Once, while suffering from pain in the head, and in a large tibial node, at night, he took forty-five grains, thrice daily, of iodide potass. for some months. Seeing he could not continue it, and growing worse, he called on me, when I found severe iodism, very naturally. A subperiosteal abscess formed on the tibial node. This I opened, after which it quickly healed. Finally, I lost sight of the man. He eventually died on December 2, 1881, from some intra-cranial mischief, no doubt syphilitic.

Some high authorities, Fournier, for example, tell us that corrosive sublimate, the form which I prefer and usually employ, disagrees, is badly tolerated, or is positively injurious in pregnancy. In my experience (not very small) I find it not only does not increase the anæmia of pregnancy, but, on the contrary, obviates it. Neither could I see that mercury, in any form, internally, caused or increased gastric troubles. I never hesitate to prescribe the metal for syphilitic pregnant women. And I am satisfied that a careful use of it is the best protective against miscarriage such women possess.

SIOUX CITY, IOWA.

ARTICLE IV.

PROGRESSIVE PERNICIOUS ANÆMIA.

HARMON LEE CO., ILL., AUG. 3, 1882.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER: — The wife of Dr. Wm. Henry, after parturition, had no hæmorrhage more than an ordinary case of labor. The lochia the same as usual; perhaps a little more than the average, but not enoug

to destroy the blood-making power. The extremities became œdematous; the color left the body; three weeks before death she looked as bloodless as a corpse. The ears were bloodless, and a gradual weakening of the powers of life came on. Sometimes a peculiar mold would come on the surface, which could be rubbed off, leaving under it on the skin a greenish-yellow color. For two weeks previous to death she had constant nausea, and sometimes vomiting. There was complete anorexia; no relish for food, but she had a great relish for ice and ice-water. No remedies that were used seemed to do any good, as in ordinary anæmia. I used tonics, diuretics, preparation of iron; but all to no purpose. She seemed to die of slow asthenia. The disease progressed in spite of all treatment. From the description Dr. Henry Hartshorne gives of that disease in Reynolds' System of Medicine, this seems to be a clear case of progressive pernicious anæmia. During the whole time there was no perceptible rise in temperature, nor much increase in the circulation; nothing but a gradual changing of the blood to water. The urine was about normal in quantity; sometimes light in color; at others dark. The bowels were constipated at times, and at others regular. The spleen and liver seemed somewhat enlarged; tongue pale, as in ordinary anæmia.

At times she complained of a sound in her head as if it were water, with strange noises. No emaciation of the body, but it seemed as plump as in health. Her babe was eight weeks old when she died; it is still living and doing well.

WM. HENRY, M.D.

THE following is the arrangement of the staff of the Woman's Hospital of the State of Illinois since the recent reorganization:

Dr. W. H. Byford, Dr. J. H. Etheridge, Dr. Daniel T. Nelson, Dr. H. P. Merriman, Dr. E. O. F. Roler, Dr. E. Warren Sawyer, Dr. A. M. Davenport.

Consulting Physicians. Dr. J. Ramsey Flood, Dr. D. R. Brower.

Society Reports.

ARTICLE V.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, July 17, 1882, Dr. J. H. Hollister, President, in the Chair.

INSANITY—TETANUS.

After reading and approval of the minutes of the last meeting, Dr. C. T. Fenn presented a cranium, an inferior maxillary bone, and a rib from a man who died insane, and presented the following history:

Ashbel D. was born of Puritan ancestry, in Cornwall, Conn., about 1796. He died in Tallmadge, Ohio, in 1878, æt. about eighty-two. In his younger days he possessed a comely person, pleasing manners, and a fondness for society. He was a saddler and harness-maker, industrious and thrifty, especially neat in his dress, and of good morals. He never married. D. first came to Ohio on the early settlement of the Western Reserve, about 1823, working at his trade, but after a time he returned east as far as New York.

He loved and was rejected; an authentic incident of that period. It is known, also, that she who was the object of his affection was applied to by several men, but adhered to her early determination, and remained single. She is living, at the age of eighty-five.

A history of hereditary insanity was not ascertained. After his love disappointment, he took to drinking, and had delirium tremens, after which his health seemed impaired, and he took to traveling, and his mind wandered from that period.

When forty-six years old, he returned to Ohio. He now appeared an old man. His hair was thick and gray, his face wrinkled, and his keen black eyes wore a peculiar expression characteristic of the insane. His body was spare, of medium height, straight, lithe and active. He died in the same house whose hospitality he never lacked, but from which he often wandered to great distances. He made his journeys on foot, alone, refusing offers to ride, and not partaking of food. He endured fasts, and unfriendly heat and cold without complaint. His circuit was gradully fixed, covering three or four counties, in which he had perhaps as many rural haunts, finding in each a temporary home, unwelcome to any with whom he might claim kinship. His advent was not entirely unwelcome in the busy season, for he was inclined to be industrious and useful. He was fond of attending to fires, had a special aversion to sponging, and could not bear restraint, but would leave. He generally went off by night, without notice, and without preparation, returning after a few weeks or months, as the case might be, in the same surprising manner.

He was prone at twilight, or in darkness, to drum with the back of his right hand on tin pans held in his left, going some distance from the house to perform. His knuckles were constantly abraded on that account. His aim was to frighten away spirits who were after him or tortured little children. He had hallucinations of sight, as well as of hearing. His apparel was sometimes highly fantastic. Seemed never to have had any disease except what was alluded to above. Seemed to have been temperate subsequently to his attack of delirium tremens. He chewed excessively, but after awhile forgot the use of tobacco also.

During the last years of his life he became steadier and quieter, and could talk rationally for long periods at a time. It seems that he was a Christian, and at times he had been extremely profane. Dr. S. S. Wright, of Ohio, gives the following notes of the autopsy:

The vessels of the brain were all full of blood. There were slight adhesions of the pia mater between the convolutions, and a little pus on the surface of the cerebellum. A curious loop of

blood-vessels extended along the floor of each of the lateral ventricles, plexus-like, and full of arterial blood, bound by delicate fascias. There was some softening of the brain, and a few brown spots on the vertex, like apoplectic marks. The size of the organ appeared normal. The stomach was softened and thickened, with about two or three ounces of muco-pus in it. There were evidences of congestion almost everywhere; in pericardium, lungs, peritoneum and intestines. Liver was very small and hard. Pancreas enlarged; spleen small and hard; kidneys normal. There was calcareous degeneration of the arteries.

Dr. Fenn remarked that Ashbel's skull appeared symmetrical and normal at first, but, on close inspection, it was found that the calvarium was quite thick, somewhat asymmetrical, and that the cranial sutures were all strongly ossified. Looking at the skull from above, there was a marked want of symmetry within it, the right side being fuller, and five-eighths inch larger in diameter than the opposite side. Looking at it externally, there was a marked flatness of the left side. Looking at the petrous portion of the temporal bone, the internal auditory foramen on the left side was half an inch nearer the median line than on the right side. The left jugular foramen was three times larger than the opposite one.

Dr. J. H. Hollister related the case of a murderer, who had never been insane, but a violent man. His skull was fully as heavy and thick as the one under consideration. Looking at the petrous portion of Ashbel's skull, the doctor remarked that there was a deposit which showed long-continued malnutrition, if not an inflammation, of the endosteum. He believed that was calcification, not real ossification, which was an extremely rare occurrence. In was claimed by some, even in our day, that insanity sometimes took place without accompanying pathological changes. There were other cases in which all sorts of pathological changes would take place, and yet the patient remain perfectly sane. And between these two limits there were an incredible variety of cases. The subject was a delicate one. There were persons in whom a certain behavior would be considered a sign of mental aberration, which in others would be considered proper. As to the inheritance of the disease, he believed that after a certain age

was safely attained, there was no more hereditary tendency. He related the case of a man, a wonderful athlete, most muscular and sprightly, who fell from a rope and hit his head against a sidewalk. In a few weeks he became insane, and had to be kept in confinement for twenty-two years, dying at the age of seventy-one.

Dr. Fenn, in reply to Dr. Hollister, said that in the specimen in hand, the skeleton was remarkably light, with attenuation of bone. The pachionian bodies had almost worn through the skull, which was here no thicker than paper. The asymmetry of the skull was not necessarily an index of insanity. Said he: "I believe that classes of people by imitation will become insane, in the same way that epidemics of chorea occur." In times of political excitement people may be roused to murder, and that was an insanity of imitation.

A case had come under his observation, said Dr. W. H. Curtis, in which there was a deposit of bone $1 \times \frac{3}{4} \times \frac{1}{8}$ inches in dimensions in the meninges of the brain. Whether it was caused by the insanity, or caused the latter, he could not say.

Dr. Hollister said an author claimed habitual congestion of the brain from alcohol as one of the most common causes of insanity, but, in the doctor's mind, a peculiar physical organization was necessary for insanity to develop. This consisted of an emotional nature, a high nervous organization, and a debilitated physique. In these cases, stimulants, sexual excesses, political or religious excitements would induce insanity. One present danger to the race was an excessive mental education at the expense of the physical organization. He had known of a family of five who were all insane in some way, though the father and mother possessed high mental refinement. He believed the progeny of several generations of people who had specially exercised their minds was liable to prove mentally debilitated, and this would perhaps apply to the royal families of Europe. In his experience, he had found that the business men of Chicago especially suffered from headache, and some had to leave the board of trade and take a vacation to relieve their minds. The doctor remarked that there was one day a week consecrated to mental rest, but that two days would be still better. He thought we

would have soon to return to the Roman system of physical education, specially in institutions for girls, for the crop of insanity in New England was fearful. He said a tendency to insanity should deter one from entering a profession.

TETANUS.

Dr. D. I. Scheppers made the statement that out of five cases of shot wounds following the fourth of July this year, he had had one case of tetanus; that the year previous he did not have one case of tetanus out of fifty cases of wounds; he wished to know the opinion of members in regard to the causes of prevalence of tetanus.

Dr. Kiernan said that the pathological results found in patients dead of tetanus were generally secondary, and that there was no invariable pathological change. He had met spurious cases where the mind of the patient was the only factor. There were regions, as Japan, Corea and Long Island, where the disease was of frequent occurrence. He had seen a case of tetanus in the new-born. In that case, the mother had been seduced, and afterward chased from place to place, and when the child was born, the least noise would throw it into spasms. Marked changes in the pachionian bodies had sometimes been found.

Dr. H. D. Valin referred to notes of epidemic tetanus in the translations of the June number of the JOURNAL, and mentioned the case of a patient in the County Hospital who had recovered from tetanus after stretching of the nerves.

Dr. Kiernan recommended the further use of conium in tetanus, and Dr. Hollister made the same suggestion, as that medicine had given him good results in infantile convulsions. He used the tincture, but Dr. Kiernan thought the tincture of conium was inert, and recommended the fluid extract.

ARTICLE VI.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, July 24, 1882, Dr. H. M. Lyman, President, in the Chair.

SUNSTROKE.

Dr. H. D. Valin read the following notes on this subject:

In the *American Journal of Medical Sciences*, 1876, p. 265, an autopsy on a case of sunstroke showed that there was blanching of the various organs; the vessels were congested with dark blood; the brain and its meninges were anæmic, with ecchymoses of the blood-vessels. There was an excess of serum in the ventricles (Dr. Arnd).

According to Sir Jos. Fayrer, the various conditions ordinarily called sunstroke are of three kinds: "simple syncope from exhaustion caused by heat; a condition analogous to shock, due to the action of the direct rays of a powerful sun on the brain and cord; and overheating of the whole body from either the sun's rays or from the high temperature produced by them, causing high thermic fever" (*Med. Rec.*, Vol. XX, p. 334). In the last case, grave structural changes are produced in the nerve centers.

The *symptoms* are unconsciousness; a high temperature; stertorous breathing; pulse rapid and full, sometimes slow; convulsions and death. In simple prostration the temperature may be normal, and the skin may be cold and damp.

"Large cities afford nearly all the cases. In New York over 800 cases have occurred in a single week, in 1868" (Hartshorne's Essentials). Insolation is a common result of a sudden and elevated rise in the temperature, and is most common in day laborers, working in the sun, though cases occur indoors also, and even at night.

Prophylaxis.—No disease, probably, could be better prevented than this, if it were not for the cupidity which characterizes capitalists in general. The first precaution should be to stop work when the temperature is excessively high.

Treatment.—The patient should invariably be placed in the shade, near the spot where he fell, as removal under these circumstances is a dangerous procedure. He should be wrapped in a wet sheet continually sprinkled with cold water, and ice should be applied to the head. Small doses of whisky or brandy should be frequently administered, and some authors highly recommend a few ten grain doses of quinine. Mustard should be applied to the feet, and a purgative enema administered.

Drs. Tomlinson and Murphy, in *The Practitioner*, June, 1880, report marked success from the hypodermic use of apomorphia hydrochlorate, 1–16 gr., in three cases. Others have used atropia in the same manner. But these various treatments seem inferior in value to the use of the wet sheet. Brandy can be given hypodermically if the patient is unable to swallow. Cases where the temperature has been as high as 108 or 110 have sometimes recovered.

Sequelæ.—Dr. Fayrer remarked before the International Congress last summer, that complete recovery from sunstroke was rare, and that mania, epilepsy, or other nervous complaints were liable to remain for ever after. Cases of inebriety have arisen from sunstroke, while the latter is especially prone to affect inebriates. The following are enumerated by Beard and Rockwell as sequelæ to insolation: Spinal irritation; insomnia; neurasthenia; neuralgia; epilepsy; nervous dyspepsia; hysteria; paralysis and insanity, and they recommend general faradization, with central galvanization.

Most of the cases which I have seen were of prostration only, and brandy restored the patients. In two or three cases of congestion of the brain from heat, bromide of potassium in large doses gave a good result. It also proved useful in one case in which the temperature was high, and accompanied by delirium. In this case, although the patient recovered, the mind seemed to have been somewhat weakened, afterward.

One case came under my observation in which sunstroke was followed by hepatization of the right lung, deficiency of the mitral valve of the heart, and hæmoptysis. The patient has improved for about a year, and has gained flesh, but is not able to work.

Dr. Flemming had attended a case in the person of a fireman in an engine-room, who fell under the influence of heat, and was severely burned in his fall, but he ultimately recovered from both injuries. He had also seen the case of an officer in the army in India, who recovered from sunstroke, but was afterward insane. He advocated cold sponging, the internal use of ammonia, and believed that nitrite of amyl should be given a fair trial.

Dr. Tebbits said that he had treated a case of sunstroke in a team driver. He applied ice to the chest and head, gave a purgative enema, brandy hypodermically, and digitalis. The patient recovered, but an antecedent gastritis grew worse after the insolation, and did not heal for six months. He had another case in a foundry, where the patient was heat-struck indoors. The same treatment resulted in his perfect recovery. The temperature of these cases had not been very high.

Dr. Meek related the case of a man who was sunstruck every summer for three years, and the affection had been followed every time by a few months of insanity. The patient was out of the asylum just then.

Dr. R. S. Hall remarked that when treating sunstroke, he applied ice to the carotids and to the wrists, in order to cool the blood more readily. He gave digitalis with bromide of potassium internally, and in case the feet were cold he placed them in hot water, or applied mustard to them if they were warm.

Dr. H. M. Lyman had some personal experience of sunstroke in 1878, a very warm summer. He was not in good health at the time, and had been deprived of sleep lately. After walking four or five blocks in the forenoon, he became affected by the heat. His temperature rose to 101; he experienced a great thirst, extreme weakness, a feeling of alarm or apprehension, and a blurring of the senses. After a few hours, he had dyspnœa, some difficulty in breathing, and was confined to his bed for several days. At first, cold Vichy water was taken for a drink, and small doses of whisky. When convalescent, sailing on the lake proved most beneficial.

The doctor remarked that most cases of insolation occurred in people who had not felt well for some time, or whose constitutions were below par. Sunstroke would not be likely to occur as long

as the perspiration escaped freely from the body, as this was a sort of regulating apparatus of the head of the person. He remarked that, as Mr. Dupuy had lately used ether in hypodermic injections in the collapse of cholera, the same might be tried in cases of depression from heat.

Dr. Lyman said that as vomiting and purging sometimes followed sunstroke, he thought this was especially the case in children, and that many cases of death were ascribed to cholera infantum, whereas they resulted from overheating. Claret wine in cold water was a good drink in those cases, and the white of an egg could be added to it. Removal to the country in such cases was a useful means of treatment.

Dr. Meek said that a few years ago, when sunstroke had prevailed in St. Louis, cigar-makers and others who worked in tobacco had been most readily affected, on the same principle, perhaps, that inebriates were so readily affected by the same causes.

Dr. Jos. Haven presented the heart of a male, aged seventeen, which was considerably hypertrophied. The mitral valve was insufficient on one side, and the disease had run its course, it seemed, in two weeks, ending with general œdema. The heart weighed twenty-one ounces. Deceased had never been strong.

ARTICLE VII.

ILLINOIS STATE BOARD OF HEALTH.

OFFICE OF THE SECRETARY, SHRINGFIELD, JULY 15, 1882.

DEAR SIR:—At a regular meeting of the State Board of Health, held April 13–15, 1882, the following resolution was adopted:

Resolved, That in order to protect the legal interests of survivors, to facilitate the detection of crime, and to secure fuller and more accurate knowledge of the causes of mortality, whereby preventive medicine and general sanitation may be promoted, the Illinois State Board of Health earnestly recommends to the proper authorities of all cities and towns in this State, having

populations of one thousand or over, the enactment and enforcement of a suitable ordinance requiring a burial permit from a designated official, and based upon the physician's certificate of death, *now required by the statute*, as condition precedent to an interment within, or removal of a decedent without, the corporate limits of any such city or town.

A form of such ordinance is herewith presented, and it is hoped you may be able to secure its enactment.

It should be observed that wherever such an ordinance is adopted, the certifying physician is relieved of the necessity of transmitting his certificates direct to the county clerk, but will simply return them to the designated city or town official, who will forward them to the county clerk after using them as the basis for the burial permit. This has been found to work well practically in places where burial permits are required. It helps to secure a more general compliance with the law requiring physicians to report all deaths occurring under their supervision, with certificates of the causes thereof.

The manifest object of the State law is to secure such knowledge of the causes of mortality as may lead to measures for removing or modifying such causes as are susceptible of removal or modification. This is of primary importance to cities and towns, since a reputation for healthfulness or the reverse undoubtedly influences the growth and prosperity of any given locality. By means of the burial permit and its record, the facts contained in the physician's certificate may be made immediately available for this purpose, while they cannot be where returned direct to the county clerk. From the "suitable book" prescribed in section 5 of the ordinance, a weekly or monthly report may be compiled for publication, either in the newspaper press or otherwise, and thus the condition of, and the influences affecting, the public health may be accurately judged at any given time, and comparison made with other localities.

Where burial permits are required—as they are in many places—the existence of a contagious disease—as small-pox, scarlet fever, diphtheria—has often first been made known by the information given in the permit, which thus serves to direct preventive measures for arresting further spread of the contagion.

On the other hand, in the absence of burial permits many evils arise, among which may be mentioned the fact that the bodies of murdered persons may be more easily disposed of. Within a very brief period three such instances have come to the Secretary's knowledge, where the bodies of the victims were buried without exciting suspicion. Accidental clues led to disinterment and discovery of the crimes.

Briefly, the reasons for the enactment of such an ordinance may be thus summarized:

First.—It will be of value in securing fuller, more accurate, and more readily available knowledge of the causes of death—a knowledge which is absolutely necessary to the profitable application of efforts for the preservation of health, the limitation of disease and the prolongation of human life.

Second.—It will be of value in the protection of life against criminal violence, by facilitating the detection of such violence through preventing the burial of victims of homicide, abortion, poisoning, etc., without proper investigation.

Third.—It will be of value in the protection of property interests, by making the facts pertaining to a death and burial matters of record which may be useful in probating wills, settling estates, determining heirships, perfecting letters, adjusting life insurance, and kindred matters.

For the foregoing reasons, your interest and influence in behalf of the measure are confidently anticipated.

Very respectfully,

JOHN H. RAUCH, M.D., *Secretary.*

AN ORDINANCE IN RELATION TO BURIAL PERMITS.

Be it ordained by the —— of the —— of, ——, in the county of ——, in the State of Illinois:

1. That no burial or interment shall be lawful in the —— of, nor shall any dead body be removed from said ——, until a permit for such burial, interment or removal shall have been first obtained from the —— of said ——.

2. That such permit shall be issued by the —— upon his receipt of the usual certificate of death, signed by (1) the attending physician in the case; or, if none, by (2) one of the parents

of the deceased; or, if none, by (3) the nearest of kin not a minor; or, if none, by (4) the resident householder where the death occurred; or, if none, by (5) any reputable citizen cognizant of the facts and circumstances of the death; or, if the death be the subject of an inquest, by (6) the coroner or other officer holding said inquest.

3. That any undertaker or sexton, and each and every other person engaged or concerned in a burial in violation of the provisions of this ordinance, and the officers and employés of any transportation company, or any other person or persons engaged or concerned in the removal of a dead body from said —— in violation of the provisions of this ordinance, shall be subject to a fine of not less than —— (—) dollars, nor more than ——(—) dollars for each offense.

4. That the —— shall enter in a suitable book, to be kept for that purpose, a record of all burial permits issued, specifying the date of issue and to whom issued, together with all the items of information contained in the certificates upon which the issue of such permits is based; and he shall forward to the county clerk of —— county, at the end of each month, all of said certificates so received during the month.

5. That this ordinance shall be in force from and after its passage and approval.

ARTICLE VIII.

MICHIGAN STATE BOARD OF HEALTH.

The regular quarterly meeting of the State Board of Health was held July 11, at the office of the board in Lansing, the following members being present: Leroy Parker, of Flint, president; Rev. D. C. Jacokes, Pontiac; Drs. Henry F. Lyster, Detroit; J. H. Kellogg, Battle Creek; John Avery, Greenville, and Henry H. Baker, of Lansing, Secretary.

SMALL-POX AT FLINT.

Mr. Parker presented an account of an out-break of small-pox, from which, and a report made by Dr. Lyster, who had visited

the case at Flint, it was determined that the first case was of a woman aged about fifty-five years, who traced her exposure to no other source than a peddler, supposed to have come from Canada, who had called at her house. Three weeks after the woman was taken sick, the daughter came down with the disease, and in three weeks more a boy, exposed by the daughter, was taken sick. This case was diagnosed as chicken-pox. The health officer diagnosed the case as small-pox, but met with violent opposition when he attempted to quarantine the family. Other cases appeared, called chicken-pox by some, and small-pox by others. Finally two physicians of Detroit went to Flint, and assured the citizens that the disease was small-pox, justifying the action of the health officer, who is now seconded in his efforts to restrict the disease. There are some fifteen cases of small-pox, and they are largely due to the willfulness of persons in trying to maintain that it was not small-pox, against the views of the health officer.

BUILDING INSPECTION.

Dr. Kellogg reported, as a member of the State Board of Health and State Board of Charities, relative to the plans for a dormitory and school at the reform school, detailing the changes advised in the plans to make the building more perfect in a sanitary way.

Dr. Avery, as a member of the joint committee from the same boards to visit the reformatory at Ionia, reported that the warden assured the committee that the changes they had advised in the shops now under construction at that institution would be carried out.

WORK OF THE OFFICE.

The secretary presented a detailed report of the work performed in the office during the last quarter, as follows: Much correspondence and hard work in starting the immigrant inspection service, which is now yielding valuable information, as well as aiding in preventing the spread of diseases. The inspectors at Port Huron and Detroit now make weekly reports to this board. Three cases of small-pox have been found on trains at Port

Huron, and many cases of measles have been found on trains between Port Huron and Detroit.

The various small documents printed by the board, for the prevention and restriction of diphtheria, scarlet fever, etc., and instructions as to the work of health officers in the restriction and prevention of various diseases, have been distributed to health officers throughout the State and a great many others, including masters and secretaries and lecturers of Michigan granges to the number of 840. These are sent in the hope that they will bring the subject before their organizations, and thus aid in disseminating information.

The returns of the names of 1,025 health officers in Michigan have been received, examined, and entered on the list, and a second demand sent for returns to such places as are yet dilatory. Correspondence has been larger than usual, on account of some new work in regard to immigrant inspection, etc.

A letter was read from the manufacturers of a nursing bottle which had been criticised by this board as poisonous, having a lead sinker attached to the rubber tube, stating that the objectionable feature would not hereafter be manufactured by them. They have substituted a glass sinker.

CONTAGIOUS DISEASES.

A letter was received from J. Heitmann, health officer at Jamestown, Ottawa county, stating that scarlet fever was introduced into that township by immigrants from Holland, and eight deaths had occurred.

The secretary mentioned a report that scarlet fever was communicated to a cashier in a bank at Sault St. Marie, by money received from immigrants passing through there.

Dr. Lyster reported an outbreak of diphtheria in the upper peninsula, the disease having been brought in by immigrants.

A *résume* of the work of other State boards of health was read by the secretary.

SANITARY CONVENTIONS.

An invitation for a sanitary convention at Reed City, signed by the editors, ministers, and doctors of that place, was accepted

conditionally. The time for the convention was fixed about the last of November. The board also voted to accept an invitation and hold a sanitary convention at Pontiac in January.

NATIONAL BOARD OF HEALTH.

The danger to public health interests, caused by insufficient appropriations for the National Board of Health, was considered, and telegrams expressive of the apprehensions of this board in case the work of the National Board of Health was crippled, were sent to Michigan senators, and the president and secretary directed to forward a memorial to Congress on the subject.

CHEMICAL ANALYSES.

Dr. Lyster introduced a preamble and resolution, which was adopted, as follows:

"WHEREAS, It is essential to the health and well-being of the people of the commonwealth that all articles of food offered for sale should be free from adulteration;

"*Resolved*, That this board have such analyses and reports made, by experienced chemists, on such articles of food as may be submitted to them by the officers of this board, and that such sum of money as may be required, not exceeding $150 for the year 1882, be devoted to the necessary expense of such analyses."

Dr. Baker offered the following, which was adopted: "That the secretary be authorized to have analyses made of tissues, secretions, and excretions of the human body, to aid in determining the causes of certain diseases, at an expense not exceeding $100."

Dr. Lyster, special committee to report on the present knowledge respecting the cause and prevention of typhoid fever, read the introduction to a paper on this subject, which was accepted with thanks, and he was requested to complete the paper for publication in the report.

The examination of candidates in sanitary science was postponed until the October meeting of the board, which will occur October 10.

ARTICLE IX.

THE TRI-STATE MEDICAL SOCIETY.—This flourishing association promises well for its next meeting. Sixty papers have been promised, and are now catalogued for publication. As each is limited to twenty-five minutes, and some will not exceed ten minutes in length, there will be time for all, for this society holds three working sessions each day, and has no time for banquets, receptions, etc.

The meeting for 1882 will be in Terre Haute, September 26, 27 and 28, and the railroads and hotels have promised to contribute to its success.

The rapid growth, and the good work done by this society, have stimulated the workers in the profession of Indiana, Kentucky and Illlinois, and in Cincinnati and St. Louis, to renewed effort. Hence its rapid growth.

Dr. T. M. Holloway, of Louisville, is President, and Dr. G. W. Burton, of Mitchell, Ind., Secretary.

The programme will be ready for notice in our September issue.

HERPES NIGER OF THE LABIA MAJORA.

The woman, twenty-one years of age, was at the end of her gestation. There was a gangrenous patch on the lower part of the abdomen, eight cm. long and six cm. broad, near the pubis. After parturition a high fever set in, the lochia being normal; pulse 140; no vomiting. On the right labium there appeared some spots of herpes, which extended all over the pubes in the next three days, the fever increasing at the same time. The vesicles contained a dark-colored fluid, and they were isolated. The gangrenous patch began to heal, but the herpes spread to the perineum. The patient died after six days.—*L' Union Médicale.*

Foreign Correspondence.

ARTICLE X.

VIENNA, JULY 3, 1882.

EDITORS MEDICAL JOURNAL AND EXAMINER:

The tubercle bacillus is still the lion of the day, and bacillus hunting the chief occupation of all interested in pathology. That the organisms are present, both in tuberculous tissues and tuberculous sputum, is universally acknowledged. Hitherto no one has repeated, so far as I can ascertain, Koch's experiments in cultivation and inoculation; and upon these rests of course, the asserted causal relation of the bacteria to the disease. Yet it is highly probable that in many German laboratories these experiments, necessarily slow, are being conducted. Indeed, Koch's previous work has been so thorough and unassailable, his conclusions so cautious and reserved, that no one is inclined to doubt his veracity or his judgment in the present instance. In a recent meeting of the Royal Society of Physicians here, Billroth proclaimed his acceptance of Koch's conclusions, observing, at the same time, that since the experiments of Villemin and others, he has been expecting the discovery of a vegetable parasite as the cause of the disease—since its infectious nature was by these experiments clearly proven.

Several vexed questions in pathology must now find an early solution. First, it must be already regarded as proven, that tuberculosis and consumption are, etiologically at least, identical. Niemeyer's famous remark—"The greatest danger for consumptives is that they may become tuberculous," may retain some clinical, but no pathological value. Again, we may perhaps now be able to prove, by the discovery of the bacilli in scrofulous

glands, the already highly probable identity of "scrofula" with tuberculosis. Lupus vulgaris, moreover, is by many ascribed to the scrofulous diathesis—indeed, I was told a few days ago that a Berlin pathologist has already found the bacilli in lupus nodules. We shall see. Clinically, Koch's discovery does not as yet promise much, except in the way of prophylaxis; that a child with hereditary tendency to consumption should avoid intercourse with individuals already consumptive, has been long known (though but little practiced); now, however, we know that infection can occur through the mother's milk; perhaps even from handkerchiefs and other articles used by a consumptive—and should act accordingly. Whether the earliest stage of the disease can be recognized by the microscope sooner than by the stethoscope, has not as yet been determined, though it seems highly probable, when one sees the myriads of bacilli in every drop of sputum from a patient who presents but limited areas of pulmonary degeneration. By the way, the detection of bacilli in sputum is much easier than in tissue; moreover, the experience of microscopists here, with which my own observation coincides, is that the organisms are more often found in cheesy degeneration than in the fresh miliary tubercle with its giant-cells. Koch, however, usually finds them in the giant-cells.

For the detection of the tubercle bacilli, the best method up to date is Ehrlich's, which has doubtless long ago reached you. Yet, as it requires considerable skill, and at least forty-five minutes' time, it is hardly adapted to general clinical use. Baumgarten has recently proposed a method which has the advantage of brevity—ten minutes—but the disadvantage that the bacilli are all but invisible. By Ehrlich's method the bacilli are distinctly visible with 400 diameters, and without the abbé's illuminating apparatus, oil immersion, etc., which Koch's original method required. Indeed, Koch himself now uses Ehrlich's method.

In the recent surgical congress at Berlin, Langenbeck arrayed himself among the defenders of iodoform, warning, at the same time, against the use of more than ten or fifteen grams on one individual. An interesting discussion of the pylorus resection followed. Of eighteen patients operated on for cancer, three

still live; one, a girl, whose pylorus was removed by Rydygier for cicatricial stricture after ulcer, was exhibited to the congress, in "blooming" health, as the report states. Billroth considered the operation in such cases justifiable, in opposition to Richter, who thought the time had not yet come for such a measure. Langenbeck had in one case removed the pancreas, with the adherent pylorus (result not stated, but easily imagined). Billroth expressed his surprise that so many cases had been already operated; thinks that but few cases (one in fifty or sixty) are fit for operation, because the diagnosis is made too late; has himself made twenty exploratory incisions, without operating—the exploration was in one case fatal. As to the technique, Billroth lays great stress upon an accurate adjustment of the edges of the mucous membrane, so that the intestinal and gastric contents shall not come in contact with the wound. He rejects catgut for sutures, because it stretches too easily; uses silk.

Sonnenburg exhibited a case of ectopia vesicæ which he had successfully operated by removing the bladder and sewing the ureter into the (open) urethra. Thiersch reported, in favor of his own method, that of twenty cases which he had operated in fifteen years, sixteen were healed; four died.

In Vienna, I have seen nothing of especial interest recently in the clinical way except two unpublished cases of Prof. Dittel's. In a case of very old and very obstinate cystitis, which had resisted all the usual therapeutic measures, Dittel made external urethrotomy in the membranous portion, introduced a catheter á demeure, and washed out with boracic acid solution. Within two months the patient went home with healthy urethra and bladder. In a litholopaxy last week Dittel introduced the No. 30 catheter for washing out the bladder. Five days later there was thrombosis of the dorsal vein of the penis, soon followed by chills, and by gangrene of the glans. Patient (man of sixty-four years) is expected to die in a few days of septicæmia. This is, I believe, the first "*malheur*" that Prof. Dittel has experienced in nearly a hundred lithotrities.

Billroth was recently invited to take Langenbeck's chair in Berlin. He promptly declined, and received, in consequence, an ovation from the Vienna students. First, a handsomely engrossed complimentary address was presented to him in the aula of the

university, in the presence of numerous professors and an immense audience; the same evening followed a torchlight procession by the students, including about 800 torch-bearerers, with band, glee-club, ferocious-looking "Burschen" in high boots, foxtail caps, and carrying drawn swords. On this, as on every other occasion where there is anything to be seen, the populace was out in force, crowding the streets for hours before the procession appeared. After a serenade, and a few cordial words by Billroth, the torches disappeared, and the bearers thereof spent the rest of the night in discussing the event, Billroth, and Pilsner beer.

The writer had the pleasure of meeting Dr. Allen, of Rush college, some three weeks ago. He and Mrs. Allen seemed well pleased with our old Kaiserstadt.

W. T. BELFIELD.

ARTICLE XI.

PRAG, JULY 3, 1882.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER:

Prag is undoubtedly so little known to the majority of your readers as a great medical center, that it deserves all the space I can devote to it in this letter. The University of Prag was founded by Charles IV in 1348, and is consequently the oldest in all Germany. His successor, Wenzel, desiring to limit the privileges of foreign students, many hundreds of them deserted Prag, and founded the University of Leipzig sixty-one years later. Beside being the oldest, it was for centuries the best attended center of learning in all Europe. During this time it had six thousand students and upwards, two thousand of these being in the medical department. At present it has, all told, about two thousand, four hundred of these being students of medicine. More than half of these are of Bohemian birth, and many speak no German at all. For these lectures in Czeckisch are given, there being really two series of parallel lectures, one in German and the other in the vernacular.

The medical department has numbered in its faculty some of the best men that Germany and Austria have ever produced.

To speak only of the last few years, Klebs, the celebrated pathologist, has but recently left Prag for Zurich; Toldt, the present professor of anatomy, has no superiors, and the present century lost one of its brightest surgical ornaments when the lamented von Heine died, three years ago. He was succeeded by Gussenbauer, of whom I shall have much to say. Ranking with Czerny as one of Billroth's most favorite and brilliant scholars, after being private docent in Vienna for a time, he was called to the chair of surgery in Liège (Belgium); from here he was nominated as Heine's successor. A most industrious student and hard worker; a most fascinating clinical teacher; a fearless operator, I esteem him as already the equal of his renowned preceptor, and I dare say that he will succeed Billroth at Vienna when the time comes.

The hospital here, that is, the main part of it, is about a hundred years old; nevertheless, everything is kept clean and neat. There are also a children's hospital, a foundling asylum, and a military hospital on adjoining lots, and close by are the insane asylum, with sixteen hundred patients, and the new maternity hospital. This latter is the most elegant and best adapted building of its kind I have yet seen on the continent. It is on the pavilion plan, of red brick, thoroughly modern in its external features and internal appointments, and architecturally a thing of beauty. It accommodates nearly three hundred patients. Breisky, who is well known to American obstetricians and gynæcologists, at least, is its shining light. Here the advantages are as good as in Vienna, except that they have perhaps only two-fifths as many births during the year; but they have at least three thousand, an ample number for clinical purposes. Here a student, by payment of five dollars, can have a bed in the students' quarters, and be called to all the labor cases on his side, for six months.

So that, excluding the insane asylum, there are at least a thousand beds to which students have access, and a like number of patients available for clinical purposes. Besides these, there are a large number of out-patients flocking every day to the general hospital.

Gussenbauer has in his service about a hundred and twenty-five in-patients, and an unknown number of out-patients. His

clinic lasts nearly two hours every day, and consists nearly wholly of rare and interesting cases. For instance, the first week I was here there were four exsections of the upper jaw, one or two of the lower, several amputations, and numerous other difficult operations. The number of patients with more or less malignant tumors is astonishing. Every day three or four are presented, and the half are not seen in public; but having "the run" of the wards, I cannot help but notice them.

The other day Gussenbauer attacked what proved to be the most complicated case of ovarian tumor I have yet seen. There were adhesions everywhere and to everything; to the abdominal walls; to the viscera and omentum; to the vena cava; to the ureters; and a smaller cyst dipping down in the pelvis was adherent to bladder, rectum and pelvic fascia. After infinite pains, he removed the whole mass, the operation lasting nearly two hours, and up to date the patient has not had a bad symptom, and bids fair to recover without one.

The previous day he extirpated four inches and a half of cancerous rectum, with the large portion of the prostate. The patient did well for two days, and then rapidly sank. Autopsy showed that he died of fatty heart and thrombosis, but there was not the slightest evidence of peritonitis or sepsis.

And to-day Gussenbauer made the most difficult operation I have yet seen him do; a resection of the pylorus. The patient was a middle-aged woman, who had had symptoms of stomach trouble for three years. A diagnosis of cancer was made three months ago, and last week she was sent in for operation. The tumor being freely movable, it seemed an excellent case for resection.

Bichloride of methylene was used, as it is here in all laparotomies, because it so seldom causes nausea. It is administered with a Clover apparatus. Thymol was used in the spray. The preliminary incision was made in the middle line, both as being more indicated in this case, and as leading to less hæmorrhage. Usually the incision is made obliquely. The diseased part, being brought to light, was carefully deprived of its omentum, on both sides, numerous catgut ligatures being required. The diseased part having been thus excised, the slow and tedious process of

bringing the parts into apposition and properly suturing them was begun.

Either such a long description or one or two diagrams being required to explain this whole process, I must defer a detailed account, perhaps until another occasion. This part of the operation being happily completed, the parts were thoroughly cleansed and returned, and the external wound completely closed. The operation lasted three hours, but such thorough care was taken to prevent hæmorrhage, that I doubt if two ounces of blood were lost. The patient suffered from shock, but was put to bed in as good shape as could be expected. I should have said that two or three suspicious glands in the greater omentum were also removed.

This is Gussenbauer's second case of the kind; his first having been unsuccessful. Although not the first to practice it on the human being, he was among the first to investigate the possibilities of the operation on the dog and other animals.

It may be worth while to state that he uses chloroform invariably in all his operations, with the exception above noted; and I have been both surprised and pleased with the ease with which they anæsthetize patients and keep them under its influence; pleased because I am in favor of chloroform, and have always written and talked in favor of it.

Altogether, I think I have said enough to show the vast and varied amount of material in this one clinic, and to render my homage of admiration for its chief. I may add that Prof. Weiss (formerly in Paris) has the other surgical clinic, which is said to be equally rich in material. His lectures are in Bohemian.

Let me devote a little space to Hasuer, the oculist. His name is familiar only to the students of ophthalmological literature, at home, and yet I suppose he is the most expert and rapid operator, perhaps of the present century. The 16th of May is the day allotted in the calendar to St. John Nepomuck, the patron saint of Bohemia. On this day the halt, the maim and the blind come in from all the surrounding country for treatment. Among this motley crowd are a great many cataract cases, and on one of these occasions, having his patients all made ready, Hasuer is known to have operated on *twenty-three eyes in one hour*. I have seen

him several times, and can testify to the wonderful rapidity and certainty of his movements. I saw him one day remove two cataracts from different patients in different rooms, and also operate on both sides for strabismus, *within six minutes*. Of course no anæsthetic was used, and all the dressing was left to the assistants. Hasuer has his own method of extracting cataract. He uses a Beers' knife, makes an incision closely corresponding to the Græfe cut, and then, instead of an *iridectomy*, he performs an *iridotomy*. Most of his results are wonderfully good. Surely the method is deserving a trial on your side of the ocean.

Traufal is not as well known at home as his Vienna colleagues, Politzer and Gruber, but is most favorably known over here. In his clinics are found more than the usual number of cases that repay close study.

I doubt if in any one of the Vienna clinics a larger number of eye or ear cases can be found than in those here; certainly Hasuer's annual showing of nearly two hundred and fifty cataract extractions, will compare very favorably with either Arlt's or Jaeger's.

The skin clinic here is also interesting, though in this respect Prag can hardly compare with Vienna.

If one desires to study either microscopic or gross, normal or pathological anatomy, the opportunities abound and are excellent. The interest in pathological histology which Klebs aroused will not subside under Chiari, who has recently been called here from Vienna. Every morning from five to ten sections are made, and cadavers can be secured for purposes of dissecting or practicing operations for from forty to seventy-five cents.

In every respect, then, Prag deserves the attention of any one going abroad to study. Everything is cheap, even whatever private instruction a man may want. I think no one ought to study in Europe until he has done some work and some practice at home; but to such I can most cordially commend Prag, both as a place where he will be treated much better in every respect than in Vienna, and as a field for study which compares most favorably with Berlin and Vienna, and perhaps ranks next to them.

ROSWELL PARK.

Domestic Correspondence.

ARTICLE XII.

LANSING, MICHIGAN, JULY 12, 1882.

To the Honorable the Senate and House of Representatives, in United States Congress assembled:

Your memorialist, the Michigan State Board of Health, respectfully represents:

That small-pox, diphtheria and scarlet fever have been and are being repeatedly introduced into this State by immigrants newly arrived from foreign infected places, and by travelers who have come in contact with such immigrants; that because of the rapidity of travel, and the vast amount of inter-State travel, it is impossible for State or local boards of health, without extraordinary interference with inter-State commerce, to successfully quarantine against or effectually control these diseases while the United States Government permits one or more of them to be introduced so frequently, as of late, by immigrant vessels which reach this country; that while in ordinary years the introduction of scarlet fever and diphtheria is believed to be of exceeding consequence in causing epidemics, in swelling the death-rates, sickness-rates, pauperism and general suffering, cholera and yellow fever are sometimes thus introduced, and at the present time small-pox is causing especially widespread disaster in this and other Western States; that, by reason of such introduction of disease, the lives, health, and happiness—those dearest and most important interests of our people—are constantly destroyed or placed in imminent danger from those foreign pestilences from which it is entirely possible for the United States Government to afford

protection; that we believe that it is the highest duty of a government to protect the lives of its citizens from dangers which which threaten all, and from which no other than governmental protection is adequate; that it is with deepest apprehension that this State Board of Health learns that by reason of insufficient provisions, in the Sundry Civil Service Appropriation Bill, for the National Board of Health, the important work which that Board has lately commenced and is expected to do is likely to be crippled; that this Board believes that now, more than ever before, is a most inopportune time to lessen in any way the activity and usefulness of the National Board of Health, believing, as this Board does, that there is no other governmental department, bureau, or "service" so closely connected with the highest interests of all citizens and of humanity.

Therefore this State Board of Health earnestly prays Congress to grant sufficient appropriations to the National Board of Health, and to make such other provisions as will enable it to continue the immigrant-inspection service at all important ports of entry, and on important lines of travel, and to provide in every possible way for the protection of the whole country from cholera and yellow fever, and also from those contagious diseases hereinbefore mentioned, which are well-known as causing the most deaths and distress, throughout the greater portion of this country.

By direction and on behalf of the Michigan State Board of Health.

LE ROY PARKER, *President.*
HENRY B. BAKER, *Secretary.*

ARTICLE XIII.

MONTICELLO, FLA., JULY 12, 1882.

PREMATURE LABOR, INDUCED BY QUININE.

EDITORS CHICAGO MEDICAL JOURNAL AND EXAMINER:—The patient, æt. twenty-two, was five months gone in her second pregnancy; was in a debilitated and anæmic condition from repeated attacks of malarial fever.

Quinine had been given by her husband, in small doses, for some days, but failing to check the fever, he increased the dose to grains xiij, which was followed in ten hours by an abortion, with considerable hæmorrhage.

Yours very respectfully,

THEODORE TURNBULL, M.D.

ARTICLE XIV.

CHICAGO, JULY 1, 1882.

MESSRS. EDITORS:—I have received a number of letters from physicians, asking for the strength of the yellow ointment, and I find that by some accident the formula was left out in the copy of the MS. To remedy this oversight, please state in a note in the next number of the JOURNAL AND EXAMINER, that the yellow ointment I use contains thirty grains of yellow oxide to ℥i vaseline.

Yours truly,

F. C. HOTZ.

A CASE OF RARE DYSTOCIA BY TRANSVERSE OCCLUSION OF THE UTERUS.

The woman, thirty-nine years of age, had borne a child eighteen years ago. When pregnant again after this time she had very severe labor pains, but without any effect. The examination showed a membrane separating the cavity of the uterus from the cervix, which latter was voluminous, and as large as a silver dollar. The posterior cul-de-sac of the vagina was pressed downward, which indicated a sac-like dilatation of the posterior segment of the uterus. The membrane was cut with scissors, but the cavity of the uterus could not be entered. The woman died three hours afterward. The autopsy showed a placenta prævia, the child already putrefied. The cavity of the uterus was separated from the cervix by a membrane, in a transverse direction, and three centimeters long.—*Le Praticien.*

Reviews and Book Notices.

ARTICLE XV.—SENSATION AND PAIN. By CHARLES FAYETTE TAYLOR, M.D. A Lecture delivered before the New York Academy of Sciences, March 21, 1881, being one of the Public Course for 1880–81. 12mo, pp. 77, cloth, 75 cents. New York: G. P. Putnam's Sons, 27 and 29 West 23d St. 1881. Chicago: Jansen, McClurg & Co.

This is one of those rare gems of literature, which could not have been written before the latter half of this century. The terminal statement made, that Carpenter, Bain, Spencer, Bastian, Maudsley, Tuke, Huxley, etc., had been consulted before the author prepared his lecture, was not intended for the critics, who could well enough imagine that, yet the subject is treated in an original as well as masterly manner, and illustrated with a variety of charming anecdotes, which render the book just as interesting to a schoolboy as to a metaphysician.

After giving a short description of the function of the nervous system, a condensation, as it were, of the first part of Herbert Spencer's Psychology, Dr. Taylor explains the relation between consciousness, sensation and pain, explains illusions of some sorts, and gives a mode of performing minor operations without pain, which physicians of experience have all practiced more or less. A perusal of this little book will well repay every practitioner, but its reading is fully as interesting to those who have no practical knowledge of medicine. It will be remembered Dr. Taylor is free from all the prejudices of the age, and astonished the medical profession of New York not long ago, by pointing out the ill results of disuse of the sexual organs among the unmarried women of the higher class. In the book under consid-

eration, the same principle of looking after truth, whatever the consequences may be, has been followed throughout.

ARTICLE XVI.—LECTURES ON ELECTRICITY (DYNAMIC AND FRANKLINIC), IN ITS RELATIONS TO MEDICINE AND SURGERY. By A. D. ROCKWELL, A.M., M.D., Electro-Therapeutist to the New York State Woman's Hospital, etc. 8vo, cloth, pp. 122. Profusely Illustrated. New York: William Wood & Co. 1881.

For those who possess the larger work of the author and Dr. Beard, this will serve the purpose of a valuable supplement; yet this little book is complete in itself, and suffices for the ordinary wants of those physicians who have occasion to use electricity once in a while.

The issue of this little book is timely, to say the least, for since Dr. Poole, of Ontario, propounded his theory that electricity was nothing but a paralyzer, and that Dr. S. V. Clevenger said that the medical applications of electricity were few, and gave the name of quacks to some of its most prominent advocates in this country, the sale of batteries must have suffered a reverse. Dr. Rockwell's little book will strengthen the faith of the many, and is surely worth reading by even those who know so little about batteries as to suppose that the results depend on the physician's judgment, instead of on the different currents used.

ARTICLE XVII.—"DOCTOR, WHAT SHALL I EAT?" A Handbook of Diet in Disease, for the Profession and the People. By CH. GATCHELL, M.D., formerly Professor of Theory and Practice, University of Michigan. 12mo, cloth, pp. 147. Published by the Author. Milwaukee: 1880.

The author recommends beef, mutton, chicken, eggs and milk, and discards pork, veal, salt meats, fish and cheese. He recommends to substitute olive for cod-liver oil (?) when the latter disagrees. Wheat flour and rice thoroughly cooked are valuable.

Here is the rule given in regard to fever-patients: Give no solid food to a fever-patient; let the food be simple, but nutritions; give it at frequent intervals, and in small quantities; let

the patient have all the cold water he wants to drink. Follow the recipes of various articles of diet. This is the plan followed throughout, and it is so thorough as to satisfy most readers, patients and cooks.

This work is constructed on the principle of the manuals which have been flooding the market lately; compendia from larger works. That the condensation has been well done, there is no doubt, and the author had the good sense to leave out every patent article of diet or artificial food.

On the whole, Dr. Gatchell has produced a useful little book, which should be found in every household.

ARTICLE XVIII.—A MANUAL OF ORGANIC MATERIA MEDICA, Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists and Physicians. By JOHN M. MAISCH, PHAR. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Philadelphia: Henry C. Lea & Co., 1882.

A book evidently written for a purpose, and not simply for the purpose of writing a book. It is comprehensive, inasmuch as it refers to all, or nearly all, that is of essential value in organic materia medica; clear and simple in its style; concise, since it would be difficult to find in it a superfluous word, and yet sufficiently explicit to satisfy the most critical.

The system of classification of subject matter is natural and obvious, the first step being their separation into animal and vegetable substances. The first of these grand divisions is subdivided into, first, that in which the entire animal is used, e.g., the leech, coccus, cantharis, etc.; next, animal products, e.g., eggs; next, animal tissues, as sponge, gelatin, etc., and, lastly, secretions and excretions, as musk, castor, etc.

A similar method of classification applied to vegetable matters permits their separation into cellular and non-cellular structures, and the subdivision of these classes into roots, rhizomes, tubers, bulbs, twigs, woods, barks, leaves, leaflets, herbs, flowers, petals, fruits, seeds, etc., and next into sugars, extracts, gums, resins, oils, balsams, etc.

The text is freely illustrated with wood-cuts, which cannot fail to be valuable in familiarizing students with the physical, microscopic and macroscopic appearance of drugs.

The work is preceded by a table of contents, and completed with that, without which no book should be considered complete, *i. e.*, an index.

In fact, the little book is just what it pretends to be, and as such is worthy of unqualified commendation. W. H.

ARTICLE XIX.—A MANUAL OF MIDWIFERY. By ALFRED MEADOWS, M.D., London, F.R.C.P., Assisted by ALBERT J. VENN, M.D., M.R.C.P. Fourth Edition, Revised and Enlarged, with 137 Illustrations. 12mo, cloth, pp. 498. G. P. Putnam's Sons. New York: 1882.

This book is in brevier type, a common thing with the text-books and periodicals of Great Britain, which should not, however, be encouraged, for the impairment of sight resulting from the reading of small type more than counterbalances the saving of money. Needless to mention that the largest part of this book is formed of condensations, yet it also contains some statements not to be found in some larger works. The class of people for whom this book will be most useful are the young physicians who need to take an obstetrical book along when called to cases of labor, as this one is not at all bulky. But while we have Ramsbotham, Playfair, Lusk, and so many other valuable text-books, we do not see the advantage of shorter works. However, this manual is not by any means to be classed with the cramming manuals, for it certainly contains more than the essentials of what it treats, and will confer all the necessary knowledge on those who make a careful study of it.

ARTICLE XX.—HOW WE FED THE BABY, TO MAKE HER HEALTHY AND HAPPY, WITH HEALTH HINTS. By C. E. PAGE, M.D. New York: Fowler & Wells, 1881.

The old proverb says, "Out of the fullness of the heart the mouth speaketh."

It is very evident that the author's heart is full of his baby, fuller, perhaps, than his baby would be of food, upon three meals

a day, which seems to be the hobby upon which he would ride into printer's ink and notoriety.

The book is a protest against over-feeding of infants, and while it contains much that is true, contains nothing that is new, or that has not been taught and practiced by intelligent physicians for a generation.

Exception to this criticism should, however, be made in favor of the author's scheme of feeding an infant but three times daily—which would seem to those who, unlike the author, have had more than one baby, a somewhat too vigorous protest against over-feeding.

The author's citations from "Mark Twain" are funny, but can scarcely be regarded as authoritative. In his list of authors for reference let him add to Mark Twain, "Holy Job," and read what that authority says about book-making, and ponder it well before he publishes another book (or baby). W. H.

ARTICLE XXI.—A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.A., M.D., F.R.S. Second American from the Third and Revised English Edition, with Extensive Notes and Additions, by E. S. REICHERT, M.D. 259 Illustrations. 12mo, leather, tinted edge, pp. 987. Philadelphia: Henry C. Lea's Son & Co., 1881. Chicago: Jansen, McClurg & Co.

A more compact and scientific work on physiology has never been published, and we believe ourselves not to be mistaken in asserting that it has now been introduced into every medical college in which the English language is spoken. This work conforms to the latest researches into zoölogy and comparative anatomy, and takes into consideration the late discoveries in physiological chemistry, and the experiments in localization of Ferrier and others. The arrangement followed is such as to render the whole subject lucid and well connected in its various parts. However, the amount of information contained in these 900 and odd pages is immense, and requires a good deal of pondering before the student's mind can become familiar with it. This is an unavoidable fault of modern text books, because of the wonderful stride just made in the various sciences connected with animal life.

ARTICLE XXII.—MEDICAL HERESIES HISTORICALLY CONSIDERED. A Series of Critical Essays on the Origin and Evolution of Sectarian Medicine, Embracing a Special Sketch and Review of Homœopathy, Past and Present. By GONSALVO C. SMYTHE, A.M. M.D., Professor, etc., etc. Philadelphia: Presley Blakiston, 1880.

The "Series of Critical Essays on the Origin and Evolution of Sectarian Medicine," indicated in the above title, is comprised in ninety-five pages of this little volume, and might with greater propriety be entitled an epitome or abstract of the history of certain medical heresies. Although doubtless interesting to those who have read little of the history of medicine, or to whom a wide range of medical literature is inaccessible, this narrative is inaptly termed a "series of essays," and still more inaptly entitled "critical."

The only heresy which the author has really essayed to criticise being that last and most stupendous of all, homœopathy. The zeal with which he assails this modern delusion impresses the reader that this is really his objective point of attack, the *raison d'etre* of the book, and that the preliminary narrative is merely a sort of skirmish before the battle.

While there can be no question of the justice of the author's criticisms, their wisdom may well be doubted. The time and labor wasted in combating heresies, whether theological, philosophical or medical, would be much more profitably utilized in the observation of facts and phenomena, the deduction of their underlying principles and the laws to which they are subordinated. Science, like philosophy, can afford to let heresies alone and pass them by unnoticed. All heresies must sooner or later perish, since they contain the elements of their own destruction, *i. e.*, the principle of negation. Upon such foundation no permanent superstructure can be reared; any edifice so constructed must depend for its maintenance upon factitious aid, and this is always largely composed of that sort of public sentiment which rallies at the cry of "persecution." "The blood of the martyrs is the seed of the church," and medical, like all other heretics, love to play the role of martyrs, and thrive upon "persecution."

While we deprecate all sectarian polemics in medicine, it must at the same time be said that if anyone is still unsatisfied of the absurdity of homœopathy, and has the time to waste in informing himself thereupon, he will find it sufficiently demonstrated in this little book to satisfy the most incredulous. W. H.

ARTICLE XXIII.—DRUGS THAT ENSLAVE. THE OPIUM, MORPHINE, CHLORAL AND HASCHISCH HABITS. By H. H. KANE. Presley Blakiston, Philadelphia, 1881.

The author's object in the publication of this little book is to direct attention more forcibly to the evil effects of the opium habit, more especially, and also to those resulting from chloral and haschisch. He indicates, also, the danger incurred by medical men of establishing these habits in susceptible patients, by the incautious administration of the drugs under circumstances which seem to demand their use.

He suggests as a very efficient cause of much of the opium eating in the higher classes of society, the pernicious influence exercised by the examples of Coleridge, De Quincey and other opium slaves who have acquired eminence in the domain of belles-lettres, and very justly charges De Quincey with having "left a large debit on the side of truth, and handed down to succeeding generations a mass of ingenious lies * * *;" lies which have fascinated many a weak-minded victim, and lured him to his ruin. Of these the author cites examples, and we could add to the number.

The author regards with especial apprehension the dangers surrounding the hypodermic administration of these drugs, calls attention to the rapid dissemination of this method among the laity, and points out certain accidents likely to accompany subcutaneous medication, even when applied by experts. Among these he cites, from the experience of numerous observers, the occurrence of almost fatal syncope.

In announcing his ideas concerning the treatment of the opium habit, the author especially condemns the sudden withdrawal of the drug, and approves the gradual diminution of the dose as more humane, as well as more efficient. Reason, observation, and personal experience induce us to differ from the

author's views upon this subject. If certain deleterious effects ordinarily follow the use of any drug whatever, and so surely that the drug may reasonably be indicated as their cause, whether the drug be opium, chloral, haschisch, or alcohol, its absolute withdrawal would seem to be the most rational and essential first step toward accomplishing the removal of the effects. Long continued observation will satisfy the majority that the "tapering off" process, will more frequently result in disappointment than in success, and the personal experience of any confirmed morphine eater will enable him to distinguish no difference in the tortures resulting from the withdrawal of the half or of the whole of his accustomed dose.

Moreover, the author announces as barbarous the sudden withdrawal of the drug after the method of Lowenstein (several of whose cases he cites), which appears from the record to have occupied nine and eighteen days respectively, while for the application of the gradual (his own) method he insists upon the preliminary signing of a paper "submitting him (the patient) to the entire control of the physician for ten days," a very wise precaution, but inconsistent with his expressed preference for the gradual (?) method.

A little more attention to grammatical accuracy would have been commendable in a work addressed to professional readers: for example, on page 38 we are told that "alcoholic stimulants are used by some habitués to increase the effect of the morphia, which *it* does to a certain extent. They delude themselves into the belief that they will be enabled to thus reduce the amount of morphia used, but in the majority of cases this is a fallacy." And on page 83: "I think that the doctor is right, with reference to idiosyncrasy, but I think, also, that the method of administering the drug had much to do with it."

The book contains much that is worth knowing to those ignorant of its subject matter, and will serve to direct attention to the unwarranted abuse of a most valuable therapeutic agent.

In conclusion, the author takes occasion, very properly, to censure physicians who encourage these dangerous habits in their patients, druggists who pander to them for the sake of gain,

charlatans who profess to cure them by the substitute of one narcotic for another, and the (so-called) "religious press," which advertises these rascals. W. H.

ARTICLE XXIV.—THE DIET CURE; An Essay on the Relations of Food and Drink to Health, Disease and Cure. By T. L. NICHOLS, M.D., Author of "How to Live on Sixpence a Day," "How to Cook," "Esoteric Anthropology," "Human Physiology, the Basis of Sanitary and Social Science." New York: M. L. Holbrook & Co.

A sort of digest of dietetic philosophy, the whole science of hygiene in a nut-shell. The author is not only an M.D., but a philosopher of the school of the stoics, and an enthusiast, who seems to have accepted the conclusions of the Arab in the story, who, when butter was declared by the merchant to be as sweet as honey, inferred that honey was better than butter, and when honey was declared to be as clear as water, concluded that water was the best of all. So our author appears desirous of excluding everything from his dietary system as impure, except air and water, and these only in exceptional cases, since they, too, are often impure, and "dried apples," "these," he admits, "are delicious"—"when cooked with sugar."

On page 9 he says: "Let us imagine man placed upon this planet, fresh from the hand of the Creator: what would he eat? Precisely that for which *he was adapted.* He would smell, pick, eat the strawberry, the plum, the peach, the apple, the orange, the banana, the fig, the date, the clusters of ripe grapes. To these he would add all kinds of sweet nuts, and for variety, or pressed by hunger, he would eat tender leaves, as of lettuce or cabbage, and roots, as turnips or onions."

The author does not tell us what his man would do during six or eight months, with six feet of frost in the ground. Evidently Col. Sellers' diet of raw turnips and water was not original. "There's millions in it."

One of the author's works was omitted from the title page, to be referred to in the text *i. e.*, "a baking powder," prepared with which even "white bread" may be eaten without danger.

W. H.

ARTICLE XXV.—THE INCIDENTAL EFFECTS OF DRUGS; A Pharmacological and Clinical Hand-book. By Dr. L. LEWIN, Assistant at the Pharmacological Institute of the University of Berlin. Translated by W. T. Alexander, M.D. New York: William Wood & Co., 1882.

In the author's preface occurs the following: "But in the therapeutic employment of certain drugs, deviations sometimes occur from this typical, and, as one may say, normal action, whose recognition and correct interpretation are not always easy."

These deviations from the normal action of drugs, the author has classified etiologically into those dependent on individual peculiarity, those attributable to temporal or local influences, and those resulting from the quality of the drug.

Under the first of these classes, *i. e.*, individual peculiarity, he includes those physiological susceptibilitics termed idiosyncracies, both organic and chemical, or chemico-vital. Under organic idiosyncrasies he classifies "variations in the influence of external agencies upon homologous tissues," and also "those manifested by similar and dissimilar organs in the same individual under the influence of external agencies."

Under chemical idiosyncrasies are classed those dependent on "the presence in the body, in excess, of chemical substances which render more soluble than usual the medicinal agents introduced, or which enter into combination with them, thus forming new and directly deleterious agents," and "pre-existing pathological changes in organs, or diseases of the regulatory apparatus."

Under the head of "Temporal and local influences" he indicates more especially what has been aptly termed the "epidemic constitution" and climatic influences.

The deviations dependent on the quality of drugs he attributes to the following causes: *i. e*, to poorness of quality of the crude drug, to deterioration by age, to adulteration, or to variation in quality resulting from different modes of preparation.

In the book before us the author has elaborately discussed the anomalous effects and their various causes, in their relations to more than one hundred of the most valuable articles of the materia medica; he has enriched his treatise with citations from

nearly four hundred authorities, and has accomplished his work in a style and manner which cannot fail to prove attractive to every student and scholar, for the evidences of laborious investigation, judicious classification and careful analysis, as well as for its clearness of expression, elegance of diction and conciseness of style.

This book will richly repay any reader for the time and attention bestowed upon its pages. The expert, if he finds nothing which has not already come within the range of his own observation, will, at least, find verifications of his experiences which will serve to corroborate them, while the tyro will learn the true interpretation of many perplexing problems, whose solution will surely puzzle his brain during the clinical experiences of his future professional life.

This book is a real contribution to medical science, a narrative of work done, for whose introduction to an English reading profession no small measure of commendation is due to the translator. The style of English into which the German has been rendered indicates that it is the work of one familiar not only with the German language, but also with his own, a qualification apparently regarded as superfluous by the majority of translators. The publisher has done his work in a manner befitting the excellence of the subject matter; the paper, type, composition and press-work are alike good, so that the book is not only "good reading," but "easy reading." W. H.

ARTICLE XXVI.—CONSPECTUS OF ORGANIC MATERIA MEDICA AND PHARMACAL BOTANY, Comprising the Vegetable and Animal Drugs; Their Physical Character, Geographical Origin, Classification, Constituents, Doses, Adulterations, Etc.—Table of the Tests and Solubilities of the Alkaloids Appended. By L. E. SAYRE, PH.G. Detroit: George S. Davis, Medical Book Publisher, 1880.

This will prove a valuable text-book for students, for whose use it purports to have been written. It is apparently the work of one practically familiar with his subject and competent to teach. It comprises a chart of botanic materia medica, in which the articles are tabulated under the captions: Natural order,

officinal name, botanical name, common name, habitat, parts used, constituents, medical properties, dose and officinal preparations; chapters devoted to the geographical grouping of materia medica, to structural botany, to the botanical arrangement of plants, to the characteristics, constituents and adulteration of drugs, concluded with a very useful table of vegetable antidotes and incompatibles, and one of solubilities and tests of alkaloids.

Notwithstanding its syntaxical defects, the book is a useful contribution to medical literature, and is deserving of presentation in a better dress than that in which its publishers have invested it. The remarkable disproportion between its price and its mechanical demerits, will probably prevent a circulation to which its intrinsic merits entitle it. W. H.

ARTICLE XXVII.—FOOD FOR THE INVALID, THE CONVALESCENT, THE DYSPEPTIC AND THE GOUTY. By I. MILNER FOTHERGILL, M.D., Edin., Member of the Royal College of Physicians, London; Associate Fellow of the College of Physicians, Philadelphia, Etc., Etc.; and HORATIO C. WOOD, M.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Pennsylvania; Member of the National Academy of Science. New York: MacMillan & Co., 1880.

The book consists of an introduction, which might be justly termed an essay on the philosophy of food, terse, concise, sententious, epigramatic almost, written by the free hand of a master, reminding one of some of the productions of the impressionist school of artists, by whom a single bold dash of color will give the entire life and character to the painting, and a collection of recipes for facilitating the preparation of wholesome and palatable food for the classes for whom they are intended.

The necessity for regulating the diet in accordance with constitutional requirements is indicated thus, "Taraxacum for the liver, and potash for the kidneys are all very well, but a correct and intelligently designed dietary is the main thing. When of old the doctor sagely shook his head and said: "Liver and kidneys," he was not the fool it has been recently the fashion to regard him. He saw through a glass darkly, but nevertheless

correctly. He was in the dark, true; but daybreak was not far off. And again, "In most persons the system is not easily deranged, and excess is not swiftly followed by punishment, while in others the punishment follows quickly on the heels of the offense. These latter are quickly taught the relations of cause and effect; a rich meal means a bilious attack next day; a good dinner with sub-acid wines, a red hot great toe at no very distant period. But, sad to say, the voice of the avenging fate is only audible to a very fine ear, and is never heard by ordinary persons. They go on eating and drinking, guided, or rather led by their palate, which latter they whet with bitters. But in the far distance there is "gout poison" and "bile poison;" the danger signals are up, but they are not heeded until they have been passed, and then these individuals become wise after the event. It is a pleasant course they follow: why meet trouble half way? Events that are in the distance may not happen. Quite so! The feet of the avenging deities are shod with wool, etc. W. H.

ARTICLE XXVIII—A MEDICAL FORMULARY, Based on the United States and British Pharmacopœas, Together with Numerous French, German and Unofficinal Preparations. By LAWRENCE JOHNSON, A.M., M.D., Lecturer on Medical Botany, Medical Department of the University of the City of New York; Fellow of the New York Academy of Medicine, Etc. New York: William Wood & Co., 1881.

Everything should have what Gallic neighbors are wont to call a "raison d' etre," an excuse for its existence. If this book has such we fail to perceive it. It purports to "present in a manner convenient for ready reference the drugs and preparations in common use, etc.," thereby violating, at the same time, truth and syntax, and, "though based on the United States and British Pharmacopœas," does not include all the drugs and preparations contained in them, a number of the less important having been omitted." A modest confession, surely, concerning a book of less than four hundred pages, which presents very superficially what the works from which it is compiled treat more thoroughly. The metric system, which has been already

so generally adopted, and which must soon be universally applied, is disposed of in a short paragraph in the introduction, and nowhere else in the whole work receives recognition.

It is simply one book more on the subject of pharmacy, which would be valuable if the others did not exist. Moreover, it assumes to be one of a "Library of standard medical authors," being in truth a compilation by a neophyte absolutely unknown in medical literature. W. H.

ARTICLE XXIX.—OPIUM SMOKING IN AMERICA AND CHINA. By H. H. KANE, M.D.

From every possible source Dr. Kane has collected the material for this interesting little volume. As an instance of the thorough investigation he has given the subject, he has hunted up the most incorrigible opium "fiends," giving them treatment and shelter free of charge, for the purpose of studying the habit. He has smoked himself many times, carefully noting the physiological phenomena. Every official likely to possess information he has written to or interviewed on the subject. The English opium trade with China receives pretty thorough ventilation, not to English credit. The amount of the opium trade, and its increase year by year, is tabulated. The growth of the habit in America is illustrated in startling detail. The author has concluded, however, that the habit can be thoroughly cured with ease, compared with the morphia or opium eating habit. New York: G. P. Putnam's Sons. W. L. D.

ARTICLE XXX.—THE PHYSICIAN HIMSELF, and What He Should Add to the Strictly Scientific. By D. W. CATHELL, M.D., late Professor of Pathology in the College of Physicians and Surgeons of Baltimore, etc.

This modest little volume, on a miscellaneous collection of subjects, which rarely find a place in literature, will be found a grateful companion by a large proportion of the medical profession. It consists of an essay on personal questions in medical practice, written in simple, colloquial style, in the form of a reply to a question, that the subjects may appear more direct and personal to the reader. There is not a subject connected with the

personal welfare of the medical man mentally, morally or ethically, left untouched. The author says, in his first lines: "Professional tact and business sagacity are as necessary to the physician as the mariner's compass is to the navigator. There are gentlemen perfectly acquainted with the scientific aspects of medicine, who can tell you what to do for every ailment that afflicts humanity—but who, after earnest trial, have secured neither reputation or practice, because they lack professional tact and business sagacity; and there is nothing more pitiful than to see a worthy physician waiting year after year for practice that never comes." To such the author plainly says: "You will find that intellect, genius, temperance and other excellent qualities will all fail, unless you add ambition, self-reliance and agressiveness to them." To the young doctor he says: "You should, above all else, strive to start promptly on the road to success; for, unless you let the people know you are about, make some mark, and get a reputation in your first six or eight years, the probabilities are that you never will." Our old Mentor thoughtfully remembers the young Galen in his perplexity as to choice of location, and advises him as to many little things, even to the size and inscription on cards and signs, and details of office arrangements. The importance of cultivating methodical business habits is earnestly inculcated. The personal conduct of the physician under all circumstances is thoughtfully and sensibly advised upon. There is a convenient index appended, in which the various exigencies of professional life are alphabetically arranged and paged.

Every physician who has not reached the calm grays of age will find something of profit to himself in this little brochure, which so pleasantly fills a "long felt want." W. L. D.

HERR PROF. C. WEDL, Professor of Microscopical Anatomy in the University of Vienna, was lately for a brief time a visitor in Chicago, where he was entertained by Prof. DeLaskie Miller, and a few other medical gentlemen.

Editorial.

THE NEW YORK CODE OF ETHICS.

We learn that a large proportion of the county medical societies in the State of New York have already refused to sanction the revised code adopted by the State Society last February, thus rendering it quite probable that it will be repealed, or so modified as not to conflict with the national code, at the next annual meeting of the State Society.

It is certainly desirable that such a result should be reached; for one of the great benefits to be derived from a written code of ethics, depends upon its *nationality;* namely, its influence in unifying and harmonizing the profession by furnishing a common rule of action for all parties and sections. But the nationality of a code can neither be acquired nor preserved, unless its framing and revisions are both left in the hands of the American Medical Association, as the only national representative organization, the voting members of which are direct delegates from the State and local medical societies. If each State medical society should follow the example of that of New York, it is plain that all uniformity would be destroyed, and the conflicting ethical regulations would speedily render it impossible to preserve the harmony and representative character of a national organization. Consequently, the only proper course would be for any State society, the majority of whose members desire alterations of the ethical code, to instruct its delegates to the National Association to propose, in that body, such alterations as might be desired. That would give to the delegates from all the societies an opportunity to take part in the consideration and adoption or rejection of the changes proposed.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—During the last few years, the proposition to have the American Medical Association establish a weekly medical journal, somewhat after the form of *The British Medical Journal*, in which the proceedings and papers should be published, instead of publishing them in a single volume, as heretofore, has been urged with much earnestness by some of the most eminent members of the Association. In 1880 the subject was referred for consideration to a special committee selected for that purpose. The committee made its first report at the meeting in 1881, setting forth the probable cost of the publication of the proposed journal, the changes necessary in the by-laws of the Association, and earnestly recommending the change of publication to be made.

The report was favorably received, the committee continued and enlarged, with instructions to report a more full and definite plan of proceeding at the next annual meeting. Accordingly, at the recent meeting in St. Paul, the committee submitted its second report, still further urging the establishment of an Association Journal and the adoption of such measures as will secure its pecuniary support.

The Association adopted resolutions approving the proposed change, and appointed a board of nine trustees, with instructions to agree upon the plan for a journal, and issue a circular setting forth such plan, and address copies of the same to all members of the profession in this country, asking for direct pledges of pecuniary support. The board were also instructed to agree upon the best time and place for issuing the proposed journal, and upon the best editorial talent that could be secured for its direct management, and report definitely on all these topics at the next meeting of the association. The Board of Trustees have already agreed upon the *plan* for the proposed journal, and the circular, or prospectus, will soon be sent to members of the profession throughout the whole country. On the responses to this circular will depend the success or failure of the enterprise. If those who receive it either carelessly throw it aside without attention, or, after reading and perhaps approving it, they postpone making a reply until it is forgotten, and, in consequence, the board receive but few pledges, it cannot make a favorable

report at the next meeting of the association. It is very desirable, therefore, that all members of the profession who are in favor of the publication as proposed, should make prompt replies, as requested in the circular. That a weekly journal, having a reading constituency in all parts of the country such as would be furnished by the membership of the Association, under able and judicious editorial management, would be capable of doing very much to advance all the important interests of the profession, is too apparent to need argument.

ONE of the editors of this journal has, during the past month made a change in the location of his office. Communications intended for Dr. James Nevins Hyde should hereafter be addressed to 240 Wabash Avenue.

PROF. J. ADAMS ALLEN is expected to return from Europe in time for the approaching session of Rush Medical College. Prof. H. P. Merriman of the Chicago Medical College is still abroad. Prof. W. H. Byford has returned, and is again engaged in his professional work. Prof. E. C. Dudley, of the Chicago Medical College, was on a recent date married to Miss Anna M. Titcomb, of Winnetka, Ill. He has received the warm congratulations of a large circle of friends, including his colleagues among the medical editors of this city.

Original Translations.

A VISIT TO THE LARGE OPHTHALMOLOGICAL CLINICS AT PARIS.

It is interesting for the foreigner, as well as for the country physician, to go through the large clinics at Paris. The ophthalmological clinics at this place offer a wide field for observation and study. The new instruments, and the methods of examination, which have been so progressive in the last two decades, have made ophthalmology an exact mathematical science. The surgical treatment has also made great progress. In cataract operations, V. Graefe's method has been entirely abandoned in France, and that of De Davrel has been substituted for it, but with V. Graefe's knife, which latter has the superiority over all the modifications made by surgeons and manufacturers of instruments. The cut is laid entirely into the cornea, and iridectomy is often practiced beforehand. Preventive iridectomy is practiced in cases of softening of the corpus vitreum. The division is made with laceration of the capsule, and there is a tendency at the present time among Parisian oculists to cut into the lower segment of the capsule, even with the risk of lacerating the posterior part of the iris. But this is a very dangerous proceeding if the eye is not kept perfectly quiet.

The removal of the lens is accomplished either with a spatula or by pressing the globe with the fingers. The removal of small remaining particles is considered of great importance, and the removal of these is executed either with a curette or with a pincette with flat points. The discision is made after the eye is restored to a perfectly quiet state, and the best results have been obtained in strictly maintaining this point. The globe is usually

fixed with a pincette. Mr. Fieuzal has invented a new instrument for the discision, which prevents loss of the corpus vitreum. Panophthalmitis is prevented by antiseptic treatment, which is also largely applied in affections of the lachrymal sac with lachryocystitis after cataract operations. The perfect execution of the operation however, is regarded as important to following inflammations. Phenic acid, salicylic and boracic acids are the remedies employed in antiseptic treatment. Linen or fine sponges, wetted with a solution of the acids, are applied over the eye, or the globe is bathed in a vapor of these solutions. Sclerotomy, in cases of glaucoma, has not had the results hitherto expected. In cases of hæmorrhagic glaucoma it is always practiced, iridectomy provoking disastrous results in those cases, and in cases of simple chronic glaucoma it is also employed, if there was not the expected result by iridectomy. There seems to be some doubt in regard to the practicability of sclerotomy by the French oculists. Iridectomy is the general operation in glaucoma, and here Graefe's knife is generally used in its performance again. Optico-ciliary neurotomy is not thought to be of continued success, the ciliary nerves regenerating after the operation. Warlomont has invented a kind of ecraseur for this operation, and he hopes to have better success.

Enucleation of the eyeball is very often performed at Paris. Some surgeons do not operate until the eye is in a purulent state, but others enucleate on the first symptoms of panophthalmitis. There have been mostly good results after the operation.

Galvano-puncture is largely practiced in the clinics. It is employed in the following affections: ulcerations of the cornea; small hernia of the iris; ablation of the retina; in inveterate pannus it is employed instead of abrasion of the cornea; in cysts of the eyelids; in entropion; also in apposition of the lachrymal sac and nasal canal it is very often used. It is further proposed to apply it to the anterior chamber of the eye for formation of a large artificial pupil and for removing the exudations after cataract operations. Excision of the conjunctival cul-de sac has been performed in cases of granular ophthalmitis with the best results. Extirpation of both lachrymal glands has also been performed in cases of narrowed nasal canals, accompanied by severe blepharo-

conjunctivitis. Anterior staphylotomy (resection of the upper part of the cornea) has given good results in regard to movement of the eye and of the external appearance. — *Recueil d'Ophthalmologie.*

ALL the French medical journals are discussing, in a more or less excited manner, the question of divorce in mental alienation. Can a person get a divorce from the affiliated in case the latter is insane? Hitherto the law has been the same in France as in our country, bnt at present the legislature will make some amendments on this matter. The Académie de Médecine at Paris is discussing the question, and the legislature will do what the Académie, as supreme judge in all medico-legal questions, will decide. In Germany divorce is permitted in cases of insanity, and it now seems that France will follow the same rule.

O. S.

HOW CAN THE ACTION OF ARSENIC BE EXPLAINED IN DISEASES OF THE SKIN.

In the treatment of certain diseases of the skin, arsenic is employed very often externally, as well as internally, and especially in malignant diseases of the skin, arsenic is applied externally with good success. The action of arsenic applied externally in lichen, psoriasis, lupus and carcinomatous degeneration has been generally considered to be of a caustic character, which seemed to be proved by the change of tissue and the complete destruction of malignant structures. But every other caustic substance destroys the malignant tissue as well as the healthy structure, which arsenic does not. Others have thought that arsenic forms a composition with the albuminous substances of the diseased structure, but this is not the case. Nitrate of silver and other caustics combine with the albuminous substances of the healthy as well as of diseased structures, destroying both equally. The only way to explain the destructive action of arsenic on these tissues lies in its chemical properties. If we expose a Fowler's solution to the air, thus allowing contact of air and organic substances with the fluid, we will find the arsenic acid changed to arsenious acid. There has been produced an

oxidation, one atom oxygen being added: K_3 to $O_3+O=K_3$ to O_4. The atomic form O is not represented in the air, but the molecule O+O. We must therefore conclude that arsenic acid will be changed to arsenious acid if there is a factor which changes the molecular form into the atomic, and this is the organic substance. It is a well-known fact that arsenious acid gives off its oxygen to reducing substances. If there is a third (organic) substance, giving off oxygen, the arsenic acid will take it up and form arsenious acid. Thus, but a small quantity of arsenious acid will oxydize a considerable quantity of organic substance, by giving off the oxygen to these substances and taking it from another substance, which gives off oxygen. The two facts, that arsenic acid will be easily oxydized to arsenious acid, and that arsenious acid will be easily reduced to arsenic acid, will show the action of arsenic on malignant tumors.

Binz showed first that the active protoplasma in tissues has the capacity in a high degree to thus change the arsenic and arsenious acids. The action of the arsenic is understood to be that arsenic acid seizes upon the oxygen of the cell, forming arsenious acid giving off the oxygen to the same cell, and being reduced to arsenic acid.

Through the blood the arsenic acid is brought in contact with the tissues, and it causes by its oxidation and reduction a degeneration of these tissues, like that of fatty degeneration of the liver in arsenic poisoning. That part of protoplasma which plays a *rôle* in excessive physiological processes, and especially that in the glands, is mostly exposed to the action of arsenic. It is a conceded point that wherever the vitality in organs is at the highest point, there arsenic will act most powerfully, and by that the therapeutical action of arsenic is established. Arsenic acid, in form of a paste, brought in contact with tissues affected with lupus, etc., will be oxydized and reduced alternately, destroying the tissue which is excessive in its vitality. Therefore the nodules of lupus, etc., will undergo necrosis, and the skin will appear, as Kaposi says, as if chopped with a puncheon.—*Monatsehr f. Pract. Dermat.*

THE congress of German surgeons was held at Berlin, President Dr. V. Langenbeck in the chair. Prof. Dr. V. Bergmann spoke on the blood-changes in acute infectious diseases. He does not think all the symptoms of these diseases fully explained by the germ theory (parasitic infection). There are some chemical poisons which reproduce the same symptoms as bacilli. The white blood corpuscles are dissolved not only by the bacilli, but also by certain ferments (pepsine and trypsine).

Prof. Dr. V. Braun thinks extirpation of large malignant strumata not expedient, on account of their rapid growth around the trachea and œsophagus. These tumors grow very often into the veins of the throat, and render an extirpation very dangerous or impossible. Langenbeck and Gussenbauer say that they agree with the author's opinions. Braun says that ligation of the femoral vein near Poupart's ligament is not so dangerous as ligation of the vein and artery. In rare cases, however, it will happen that circulation is impeded after ligation of the vein alone, through tight closure of the venous valves.

Dr. Schwalbe reports his method of radical cure of hernia. He makes injections of alcohol around the hernia. Ranke and Gussenbauer state the safety of this procedure, it being not dangerous, and effecting a shrivelling of the sac. Dr. Michael reports his results with the modified canula of Frenselenburg. In a case of communication between the trachea and œsophagus, he was able to tamponate the trachea with the modified canula permanently. Sonnenberg speaks of the application of permanent baths in the treatment of surgical cases. These baths have been of perfect success in cases where Listerism could not be applied, as in operations of the vagina, rectum, and the bladder.

O. S.

CONTUSION OF THE POPLITEAL ARTERY WITHOUT DAMAGE OF THE EXTERNAL PARTS, FOLLOWED BY THROMBOSIS AND DEATH.

A man, thirty-two years of age, was run over by an omnibus and brought to the Hospital Necker. The wheels of the omnibus ran over the lower limbs just below the knee joints. The right limb was seriously damaged, and there was a good deal of

bleeding, which was stopped by a tampon. On the left limb there was a large ecchymosis, without any damage of the external parts. Both knee joints were infiltrated and immovable. On the following night there was noticed considerable friction sound under the knee joint. Both limbs were treated antiseptically. The pulse was 100; temperature 86, and the patient vomited. The next day all the symptoms were aggravated; temperature 80. The left limb was cold, insensible, and no arterial pulsations. The patient vomited severely. The next day gangrene of the left limb set in. Antiseptic treatment was abandoned on account of the dark-colored urine. An operation was not determined upon, on account of the severe general symptoms (sic!). The patient died after being five days in the hospital. The autopsy showed a bi-malleolar fracture of the right limb and bloody infiltration. On the left limb the lesions were highly interesting. The articulation of the knee joint was filled with blood. The subcutaneous tissue was largely infiltrated with blood, and the infiltration was dispersed through the muscular interstices down to the foot. The soleus muscle was partly ruptured, and torn from its superior insertion. The popliteal artery was not ruptured. On the posterior aspect of the tibia the popliteal artery appeared to be blackened, and cylindrical in form. The external wall of the artery was infiltrated with blood, and there was a complete occlusion, the artery forming a flat cylinder. This was caused by a contusion of the artery, which had been pressed between the tibia and the wheels of the omnibus. On opening the artery there was a dark clot three cm. long, adhering to the anterior walls of the vessel. The inner coats were ruptured, and the adventitia infiltrated with blood. The aorta, the femoral artery and the sigmoid did not show any signs of atheroma.—*France Médicale.*

"I don't, myself, like living in a world with such a multitude of murdered men in the ground of it—though we *are* making heliotropes of them, and scientific flowers that study the sun. I wish the scientific men would let me and other people study it with our own eyes, and neither through telescopes nor heliotropes." (Ruskin.)

Selections.

A STUDY OF THE PERIODS OF INCUBATION OF THE COMMUNICABLE DISEASES. BY BENJAMIN WARD RICHARDSON, M.D., F.R.C.P., F.R.S. (Continued from page 107, July number.)

The diseases of the first group are fairly steady in respect to incubation, but it may by some be raised as a question whether catarrh, either superficial or cellular, should be classed amongst the communicable diseases at all. On this point I am very interested to hear the opinion of this Society. That catarrh may be excited without communication I know, and it may be that it is always due to a general influence.

Of the diseases of the second or third group, exceptions may be adduced in which the disease may have a shorter incubation, in particular cases, than is assigned in the classification. Such exceptions must be admitted, and my own case of scarlet fever, quoted by Murchison, shows for this disease, occasionally a very brief incubation,—six hours at longest.

Others may question whether rosalia idiopathica has a period of incubation at all, and whether it is not more closely allied to those affections attended with rash, which, like urticaria, are induced by improper food, than to scarlet fever. I attended once, with Murchison, a case that terminated fatally from occurence of bullæ in the glottis,—coming on during convalesence,—in which we never determined whether the affection, which commenced like an attack of acute urticaria, was roseolous or not. The eruption became like that of scarlet fever, with large white blotches over the surface, and in all respects yielded the form of disease which Mason Good designated rosalia parithmitica.

I would prefer, for my part, to classify these as doubtful cases, and at the same time leave them open for further study.

The diseases of the third and fourth groups will be accepted as fairly steady. Relapsing fever, as I knew it in 1847, had a longer period than five days of incubation, but by inoculation it is said to have five days.

In the last group syphilis will be accepted as having the long incubation of forty days. But hydrophobia is the most difficult disease to define. It may have a few days of incubation only. It may have months or even years.

These considerations lead up to the third question with which I opened this paper in respect to differences of opinion on periods of incubation. Do these differences depend on fault of observation, or on the circumstance that there are, in the same diseases, varying periods of incubation, the variations being under no defined rule?

My answer to this question is, that the differences of opinion so often professionally expressed, and which strike the general public with such wonder, are due rather to want of uniformity of observation than to variation of natural phenomena.

This I trace to four sets of causes—

1. That we have never yet agreed altogether as to the first sign that indicates the close of incubation.

2. That until lately we have not ventured to classify, so that there has been no clear grouping of diseases by the test of incubation.

3. That we have been accustomed to consider exceptional phenomena of incubation as more common and important than they really are.

4. That we have been too much accustomed to connect diseases which are most disimilar in actual fact too closely because of certain similarities which do not really affect the question when all the facts are known.

Now that we are coming nearer to the truth we may hope to classify the exceptions, the nature of which is included under the next heading of my paper. Upon what circumstances do the exceptional periods of incubation of the communicable diseases occur, and why do they occur?

We may assume that a difference in physical property is the reason of the difference of action of the distinct poison of the defined communicable diseases. But when we are dealing with a single poison,—with the poison of scarlet fever, for instance,—the difficulty commences. We can scarcely conceive that the poison changes in character and operation; and we are, therefore, obliged to trace out its effects through the means by which it comes into operation.

In studying this difficulty we light at once upon one useful fact. We know, of a certainty, that a poison which will affect, both by inoculation and by absorption through the lungs or alimentary surface, acts according to the circumstance of introduction in distinctly different periods. In the case of small pox, it acts one-fifth more quickly when it is inoculated than when it is absorbed through membrane. There would, therefore, probably in every case of absorption, be a difference in favor of rapidity of action, if the poison should be distributed over an injured or abraded surface, so as to inoculate such a surface in transit.

It is fair again to assume that the poison may be inhaled in a form of diffusion more ready for absorption in some cases than in others. But the great cause of difference is, I suspect, in individual susceptibility to the action of the poison, and it may be to the different influence of the same poison under different times and conditions of life. With this part of our study we have to unravel all the questions connected with the course of the communicable diseases in relation to seasons. That we should be more susceptible to the action of the poisons of the spreading diseases at those seasons of the year when there is excessive waste of bodily structure, and that we should be less susceptible to them in genial seasons when there is a balance in favor of nutrition is not a strange physiological pathological phenomenon. That we are more susceptible at the one period and less so at the other is, I suspect, more than a mere coincidence.

Here, however, I come to a point in theory which must be reserved for experimental development and exposition.

I turn now lastly, and briefly, to the practical sides of the subject in hand, and these are many. I will allude to three.

If we could arrive at definite evidence on which we could all rest, that the incubation of a disease is produced by the occurence of a certain indication, we could account for much that seems now to be mysterious. For example, in vaccinia can it be that, trusting entirely to the local phenomena, we sometimes have an apparently good vaccination in which the disease never has incubated at all? If that be so, there is a reason why the person who seems to have been thoroughly vaccinated, should still remain susceptible to small-pox. The suggestion, though it stands alone, is all-sufficient to indicate the practical importance of delivering incubation before pronouncing as to the protection afforded by some, but not all, the symptoms of a communicable affection.

The division of diseases of the communicable type into different classes or groups, according to the stage of incubation presented is, I think, a practical acquirement of the most important every-day value, both in curative and preventive science. Dr. Squire has not in the least degree over estimated this part of modern knowledge. It is quite true, as he shows, that to know when to retain at home a sick person laboring under communicable disease, when to send him from home, and when to separate him from the actual or presumably unaffected, is a direction of practical skill as eminently creditable to the profession of medicine as it is useful to the public. To remove the healthy from the affected is good practice in the case of all the diseases of the first and second of the groups I have given, *i.e.*, of the quick and short incubation series. To remove in the third series may be sound practice. To remove in the fourth, or long incubation class, is less important, and may be a practice that is quite at fault and prejudicial.

Lastly, from the study of the incubation period we learn how to assign the best means of disposing of the affected during convalescence. It seems to be a true reading of natural phenomena that the diseases of short incubation have a prolonged convalescence, and remain long as sources of communication; while the diseases which show a long incubation give a quicker convalescence, and a more rapid freedom from danger as sources of communication. Here, then, is a practical lesson that cannot well

be over-estimated. Keep your cases of short incubation at home: they will infect others and be themselves injured by removal.—*Medical Press and Circular.*

THE PRESENCE OF THE MICROCOCCUS IN THE BLOOD OF MALIGNANT MEASLES; ITS IMPORTANCE IN TREATMENT. By JOHN M. KEATING, M.D., Lecturer on Diseases of Children in the University of Pennsylvania, Visiting Obstetrician to the Philadelphia Hospital. Read June 7, 1882.

I propose to present for your consideration this evening the report of a recent epidemic in the Children's Asylum of the Philadelphia Hospital. The ward in which the disease first showed itself contained children between the ages of two and three years; some of them had been deserted by their mothers, and others had been placed there temporarily while the mothers were employed in duties about the establishment. For the most part, these children presented a fair appearance of health; they were seemingly well nourished, of good development, though probably they would have been classed as "strumous," if their large features and tendency to glandular enlargements and eczematous eruptions had received careful attention. Together with all children of this class living in asylums, they certainly presented an open field for the production of those complications that are usually such fatal attendants upon measles.

In order to save time, I shall in this paper simply narrate the history of the cases. The little patients were zealously cared for by Dr. H. E. Campbell, resident physician, to whom I am indebted for the record of the notes taken at each of my visits.

I shall also embody in this report the investigation undertaken by Dr. Henry F. Formad, now well-known as the patient and thorough investigator of the microscopic appearance of the blood in diphtheria, associated with Dr. H. C. Wood, under the auspices of the National Board of Health. Dr. Formad examined almost daily the blood of each little patient, and together we noted the presence of micrococci in the malignant cases, and

their absence in those of mild type; a record of these examinations was kept by Dr. W. A. Edwards, assistant pathologist, as also the records of the post-mortem examinations, and to him I am indebted for them. We entered this study with no pre-conceived views, the rapidity with which this exceedingly fatal epidemic came upon us, necessitated careful study in order to attempt, if possible, to discover its cause. I present also some photographs which show well the appearance of the field in these cases.

Case I.—J. F., aged two years and three months, was taken sick April 12, 1882. There had been no cases of well-defined measles in the house at that time, although it was epidemic in the city. The child had a sore throat, some cough, with fever. The throat eruption was punctated and well marked. The child died in convulsions April 15, 1882.

Autopsy.—An ante-mortem (chicken fat) clot was found in the right heart, extending into the pulmonary artery. There was great systemic venous engorgement. A decided staining was noticed upon the cadaver, especially about the temple, which caused the remark that the disease was probably one of the exanthemata. This child had been placed upon carbonate of ammonia, quinia, and digitalis; had had bromide of potassium, hot baths, and stimulants in small quantities.

Case II.—M. J., aged three years and five months, was taken sick April 9, 1882. A slight eruption on the face was noted April 11, 1882; the next day the eruption was complete over the entire body. In this case the eruption was irregular, was decidedly that of measles, but of malignant type. Still she did well until April 17, 1882, when suddenly the breathing became harsh, and pulse was rapid. At 4.30 P.M., had an attack of suffocation, with rapid feeble pulse. There was general venous engorgement, the face and lips were purple; pulse growing more rapid. Hot baths, with mustard and frictions, were used, and carbonate of ammonia and digitalis given. It was suggested to bleed in this case, but the evidences of heart clot were so marked, and the child had exhibited so many evidences of malignancy at the onset, that baths were used instead. April 11, 1882, at 3

A.M. she was still growing worse despite treatment, and shortly after had a violent convulsion and died.

There was no autopsy permitted.

Case III.—A. G., æt. 16 months. Took sick April 15, 1882.

April 16th had prodromes of measles. The temperature and pulse ran as follows:

16th.— P. M., 102°.
17th.—A. M., 101°; P. M., 103°; pulse, 180.
18th.—A. M., 102°; P. M., 103°; pulse, 180.
19th.—A. M., 101°; P. M., 102°; pulse, 160.
20th.—A. M., 101°; P. M., 102°; pulse, 148.
21st.—A. M., 100°; P. M., 100°; pulse, 180.

In this case no defined eruption appeared on the body, although there was a decided papular eruption on the uvula and anterior half arches of the throat. Whilst showing this case to the class we noted streaks of grayish membrane in the fauces. The child had decided bronchitis, and the voice showed that the laryngeal mucous membrane was also affected. This child was not at that time very ill. There was no question in our minds at the time that it was affected severely by the measles poison, that it was, in fact, another malignant case. It was carefully watched, the nourishment regularly given with quinia and iron daily, as was customary in all the cases.

On the 21st the breathing was noted as peculiar (I shall describe it hereafter). An emetic was ordered of ipecac, fearing an accumulation of mucus from the bronchitis present, and also carbonate of ammonia and digitalis and hot foot baths were given. The child's intelligence seemed good, and it will be noted that the temperature was but 100°, while the pulse was 180.

At 8 P. M. a second attack of suffocation occurred, and the child died in violent convulsions. The venous engorgement was very marked.

Autopsy.—A. G., baby, æt. one year. Post-mortem examination held ten hours after death.

Heart. Left side and valves all normal.

Right side. A large ante-mortem clot filling the cavity of the

right ventricle, and extending into the auricle; a clot was also seen in the pulmonary artery.

Lungs. Left, normal.

Right lung. At the base of this lung the lesions of pulmonary congestion were seen, especially where the lung approximates the diaphragm.

Intestines. Slightly congested and hyperæmic.

Mesenteric glands. Enlarged and infiltrated by simple congestion.

Kidneys. Normal.

Blood. Taken from the heart cavity as soon as it was opened, and examined, showed micrococci in the liquor sanguinis and in the white blood corpuscles.

CASE IV.—J. F. McH., æt. 23 months. This child had a typical attack of measles. The case was shown to my ward class several times throughout its course, the eruption was studied carefully in all of its details, and my friend, Dr. John M. Taylor, obtained for me an excellent representation of the measles eruption in water-colors from this case. I refer especially to these points as evidence that the case was one of measles; the cases heretofore were so irregular as to leave room for doubt to those hearing the recital of their histories. The eruption was rapidly disappearing, and desquamation had set in. April 21, the bronchitis seemed to be aggravated, the respirations were 36, and expirations seemed unusually prolonged. The breathing was noisy; the heart's action was rapid; pulse 148. Suddenly, in the evening, an attack of suffocation came on, which was relieved by an inhalation of nitrite of amyl. On the morning of April 22 the heart was beating 168; the venous engorgement was very marked, the jugular veins standing out like whip cords; the respirations were from 36 to 40, but the temperature was 99°. I saw the child at this time, and noted the gasping breathing, the feeble pulse, and the tumultuous action of the heart. There seemed to be capillary spasm, judging from the gasping breath, the imploring look which the child gave to all its attendants, and we at once gave an inhalation of nitrite of amyl. In a few moments it seemed relieved. The administration of carbonate of ammonia, digitalis, hot baths, etc., was rigidly adhered to.

The child seemed comfortable until 4:30 P. M., when it had another attack of milder character, though longer duration, and in it, finally died of convulsions. It was observed, says Dr. Campbell in his notes, that the convulsion was not as severe as in the previous cases.

Autopsy.—J. F. McH., post-mortem made twenty hours after death.

Eruption not well-marked.

Heart. Right ventricle contained a small ante-mortem clot. This clot was in the cavity of the ventricle, and did not involve the valves, either tricuspid or pulmonary. The left side of the heart was normal in every respect; contained no clot.

Lungs. Normal, with the exception of hypostatic congestion at both bases. The pulmonary and costal pleura of the left side were inflamed, and adherent in some places.

Trachea. Inflamed, and containing a tenacious mucous secretion.

Larynx. Inflamed and hyperæmic.

Liver. Normal.

Intestines. Peyer's patches and the solitary and agminated glands infiltrated and hyphræmic.

Mesenteric glands. Enlarged and infiltrated; they were about the size of a grain of corn.

Kidneys. Normal.

Spleen. Amyloid bodies enlarged until they presented almost the appearance seen in a tubercular spleen.

Blood. Taken from heart as soon as punctured. Micrococci were found in the liquor sanguinis and in the white blood corpuscles, and they were mobile. In the corpuscles they were seen in great numbers in active movement, of a vibratory or whirling character, and they appeared to have devoured the white cells. No bacilli were seen.

CASE V.—J. McG., æt. 26 months. Ordinary case of measles. The eruption had disappeared on or before April 15.

April 22. Child restless; marked bronchitis; cough paroxysmal upon waking, especially after excitement; mucous râles coarse, and fine throughout lungs posteriorly; throat congested, and saliva at times tinged with blood. At this date the breathing

was noted as noisy. Pulse 144; respirations 32; temperature 100°.

April 23. Mucous râles becoming general, and not limited to areas as heretofore; pulse 152; respirations 34; temperature 101. In addition to the tonic and stimulating treatment, mustard poultices were applied to thorax, and hot baths frequently given. Carbonate of ammonia was given now, gr. ij, every hour, and bisulphate of quinia by suppository, gr. ij, every three hours. In addition to this, the child was given, as were all the others, milk and lime-water, beef-tea, etc., at frequent intervals. We also used in this case the frequent administration of small doses of syr. ipecac, to relieve the secretion, which was abundant and tenacious.

April 23. Evening. Pulse was rapid; 160 to 170; temperature 102½°; breathing becoming labored and gasping (fish-like); venous stasis was becoming more marked. Increased the whisky to about one ounce a day. The attacks of suffocation continued paroxysmally; the jugular veins stood out like cords at times. Nitrite of amyl gave immediate relief, but relapse soon followed; it was always followed by free emesis, which seemed to be in itself beneficial. About midnight a severe paroxysm came on, and with it a convulsion in which the child died. After death the venous engorgement was more marked, and heart clot had been suspected for some time before. This little patient was the first case whose blood Dr. Formad examined during life; the view of the fluid was photographed; micrococci were found in great abundance, acting especially on the white corpuscles. The blood was examined very shortly before the child's death, when the symptoms of heart clot had been fairly established, and the case declared hopeless.

Unfortunately, no autopsy was permitted in this case.

CASE VI.—F. M., æt. 2½ years. This case ran a course as did the others, and I will only occupy time with a description of the post-mortem appearances.

Autopsy.—F. M., æt. 2½ years. Eruption well-marked on mucous membrane of buccal cavity; not so on cutaneous surface.

Upon laying thorax open, lungs found to be anæmic, as far as

arterial circulation was concerned, but dammed up with venous blood.

Heart. Normal in size and weight.

Right side contained a clot extending along the pulmonary artery for some distance; it was chicken fat in consistence.

Left Side. Normal.

Spleen. Congested; weight four ounces.

Intestines. Along the small intestines could be seen a few Peyer's patches inflamed, and well outlined against the comparatively normal gut. The mesenteric glands presented a very good example of enlargement and infiltration; they looked like so many peas scattered throughout the mesentery.

Liver. Normal.

Kidneys. Normal.

Brain. Not examined.

Blood. Taken from heart cavity as soon as it was open showed micrococci in the liquor sanguinis and in the white blood corpuscles, in abundance; they were not mobile. A number of zoöglæa masses were seen.

Case VII.—C. M., aged two and a half years. The eruption in the throat of this child was very well marked. A few crescentic points appeared in the temples, and the case rapidly developed malignant symptoms.

April 21. Slight grayish suspicious patches of membrane are seated in the throat. The child is hoarse, and there is much bronchitis.

April 22. Pulse rapid; respiration, 28; breathing irregular. There is great general venous stasis, the skin dark and mottled.

Dr. Formad examined the blood microscopically and found it full of micrococci. He took a specimen sample for photography. Prognosis very unfavorable, as the child has fluttering heart and gasping breathing. Hot baths had been used freely with no success, so also salicylic acid, which had been suggested early in the disease.

After consultation with Dr. Formad, the account of which I incorporate in the summary, it was concluded to give at once ℥ij of whisky, and repeat it every hour; milk was continued as the only other food.

April 24. Pulse, 144; temperature, 101°; respiration, 48. Circulation much improved. Venous engorgement relieved; breathing greatly improved. The child continued to improve during the day. At the end of the twenty-four hours it had taken six ounces of whisky, and yet it showed no effects of alcoholism. At noon the pulse was 140, respiration, 36; 6 P. M. pulse 132, respiration, 32; 11 P. M., pulse 132, respiration, 26, and regular, breathing easy, though somewhat noisy, but not harsh.

April 25, A. M., temperature 98°, pulse 128, respiration 26; P. M., temperature 98°, pulse 108, respiration, 24.

April 26, A. M., temperature 98°, pulse 96, respiration 22; P. M., temperature 98°, pulse 104, respiration, 24.

The respirations remained regular, and the child continued to improve.

After the examination of the blood on April 30, owing to the relative increase of the blood corpuscles, it was decided to give Fowler's solution of arsenic gtt. ij, three times daily. The large doses of whisky were kept up for three or four days, and gradually diminished.

I give Dr. Formad's reports, which he kindly wrote out for me:

Microscopic examination of the blood in the above case (examination made with a one-sixteenth immersion lens).

Examination April 22, 1882.—Blood full of micrococci (sphero-bacteria), affecting many of the white blood corpuscles; also a large quantity of these fungi free and in various forms of grouping, mostly in zoöglæa masses. White blood corpuscles are in increased quantity; precipitation of fibrine excessively marked under the glass.

April 24. (Same case.) Micrococci present, but in diminished quantity; white blood corpuscles less affected; precipitation of fibrine less marked.

April 26. (Same case.) Micrococci very marked, yet principally in zoöglæa masses and free in serum, but not affecting the white corpuscles, although the latter are in increased quantity; fibrine not noticeable.

April 30. (Same case.) Micrococci present; white blood

corpuscles still in excess, but not affected by micrococci. Red blood corpuscles not readily forming rouleaux, having lost partly their bi-concavity.

May 3. (Same case.) Micrococci present in diminished quantity. White blood corpuscles diminishing in quantity.

May 7. (Same case.) Same as last.

May 18. (Same case.) Still some few micrococci present; blood otherwise appears normal.

CASE VIII.—J. W., æt. 6 months. May 13, P. M. Eruption appeared on fifth day. The temperature ran as follows:

May 13.—A. M., P. M. 100 3-5°.
May 14.—A. M., 101 2-5°; P. M. 102 3-5.
May 15.—A. M., 101; P. M., 103 2-5.
May 16.—A. M., 101 2-5; P. M. 104.
May 17.——A. M., 101; P. M. 102 3-5.
May 18.—A. M., 102; P. M. 103 2-5.
May 19.—A. M., 100; P. M. 103.
May 20.—A. M., 103 2-5; P. M. 102.
May 21.—A. M., 105; death.

May 13. A fever mixture was given during the day. Quinia et ferri citratis, gr. ij, every three hours.

May 18. The eruption fading, but leaving a purple stain and mottled appearance of skin. Catarrhal pneumonia or collapse probably exists, as the bronchitis is very extensive, the râles numerous, and subcrepitant. The blood examined under the microscope shows micrococci in the blood corpuscles, but none free in the field. They are seen in great numbers.

May 19, P. M. For the past two hours the child has been very restless; the breathing rapid and labored, and also spasmodic. No membrane on tonsils or fauces. Heart's action very rapid; venous stasis marked especially in the jugular veins. Gave hot baths (says Dr. Campbell's notes), and covered him with blankets, with some relief. Increased the whisky to ℥ij every hour.

In the evening gave an emetic. The child at night was breathing easier; friction sounds heard.

May 20. At times the strangulation would seem imminent.

The venous engorgement increased, and the child died in convulsions on the morning of the 21st.

The post-mortem examination showed pneumo niaand pleurisy, with effusion.

The following eight cases were all taken sick at once, and I shall simply give a general statement of them for the purpose of especially calling attention to the case of W. L.

J. J., æt. four years; W. L., æt. five years; E. C., æt. three years, catarrhal bronchitis; W. W., æt. three years; C. B., æt. two years, catarrhal bronchitis; J. W., æt. five years; J. D., æt. five years; L. K., æt. five years

Of these eight, seven presented severe, but nevertheless typical examples of measles, and their blood was carefully examined by Dr. Formad, and found normal. The case of W. L., who was taken ill at the same time as the others, showed from the onset a malignant tendency, giving a record such as I have already described. Dr. Formad gave me the following as the result of the examination of the blood in this case, and I had frequent occasion of examining it with him myself. Let me say, that as soon as the presence of micrococci was established, the child was placed upon ℥ij doses of whisky every hour. Quiniæ et ferri citras in citric acid, gr. ij, every three hours, friction to the extremities, and warm baths, with milk and beef tea.

April 22. A few micrococci seen in the field.

April 26. Again noted.

April 30. Micrococci still present, white corpuscles increased, and marked precipitation of fibrine. None were noted as having penetrated the corpuscles; those that were found were simply in the serum. This child recovered, though every indication gave a very unfavorable prognosis.

In presenting this detailed report, I desire to call especial attention to the following points, viz.: the microscopic examination of the blood and the constant association of micrococci with the general manifestations of malignancy (a condition already well known), and the gradual but positive amelioration of all bad symptoms by treatment, which was directed to the micrococci as the *fons et origo* of trouble (this, I believe, for the first time exhibited).

It will be noted that the post-mortem examination of these cases showed more or less simple pulmonary congestion, and at times simple enlargement of the glands, but usually so circumscribed as to preclude the possibility of its being the immediate, or even remote cause of death. Again, the mode of death was peculiar: the fatal signs came on suddenly and with frightful intensity; the gasping breathing; the frantic efforts to obtain air (or really to aerate the blood); the imploring look, with consciousness not impaired, seemingly unduly acute, until the final convulsion or gradual cyanosis brought the end. The turgid veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart, pointed unmistakably to but one cause; the gradually forming right-sided heart-clot; and the post-mortem appearance, as these notes show, gave us a large, tough, chicken-fat clot, obstructing the venous circulation, firmly planted in the right heart and its tributaries, which was too often exhibited to raise a question. One of the earliest symptoms of this impending danger was undue rapidity of respiration. The child seemed to be doing well; its eruption irregular, probably incomplete, or dark and mottled, and in blotches, when attention would be called to the great rapidity of respiration, with a peculiar gasping inspiration, fish-like in character. The other fatal symptoms would follow rapidly, and within twelve hours the child, despite carbonate of ammonia, warm baths, digitalis, etc., would die of heart-clot. What caused this?

In a short paper which appeared in the *American Journal of Medical Sciences* for January, 1882, I gave the experience of a number of cases of diphtheria, scarlet fever and measles, and then attributed the condition to an increase of fibrine due to the rapid tissue changes and the malignancy of the type of disease, and urged the importance of pushing an alkaline treatment from the start.

The microscope has shown here that something more is associated with this condition.

The moment that symptoms of malignancy, viz dark eruptions, ill-defined crescents, delayed and imperfect appearance of the eruption, with feeble circulation, high temperature, and pharyngeal false membrane appear, the examination of the blood showed

micrococci in abundance in the field. They do not simply lie as impediments to the free passage of blood, though they most undoubtedly do this, and obstruct its passage in capillaries, but they surround the corpuscles, they enter the white corpuscles, and there develop with surprising rapidity, and finally cause some of them to rupture, and their contents will cover the field. Still, if they alone clogged the circulation in the capillaries, caused stasis in the lung, and thereby provoked an accumulation in the already enfeebled right heart, with blood having a tendency to coagulate, the cause of heart-clot alone would seem explained.

We find that they develop with activity, when the blood current is retarded, hence we find them spread throughout the heart-clot itself, possibly at times having been here arrested by the obstruction to the flow caused by the lung congestion, known as a frequent complication of these cases, and finally aiding, by a mechanical cause alone, the deposition of fibrine that forms the clot. They do more. They act upon the white blood corpuscle, destroy it in all probability, or, at least, as one of the cases proves conclusively, prevent its change to red corpuscles, and thus the oxygen carriers being either destroyed or reduced in numbers with none to replace them, the tissues retain their detritus for want of carriers to relieve them, and another factor is added to increase mortality.

Granted, then, that the appearance of micrococci is coincident with symptoms of malignancy, we must assert that, whether their association be *post hoc* or *propter hoc*, they must have common cause; our treatment receives an impetus in a new direction.

I asked Dr. Formad what, in his experience, most readily checked the developement of micrococci in his culture solutions obtained from erysipelas, diphtheria, etc., he answered, alcohol. Dr. Campbell at once withdrew carbonate of ammonia and digitalis from the treatment for the future, and gave whisky. Five children had already died with the symptoms I have just described, and the sixth was exhibiting all the malignant symptoms, together with those which experience had taught us came from commencing heart-clot. The child had rapid gasping breathing, was becoming cyanosed, its heart was tumultuous, and the rapid pulse was growing weaker. The instructions were to give three

ounces of whisky within the next twelve hours, in frequent and small doses. The treatment was carefully carried out, and the child was saved. In this child micrococci were found in abundance in the blood, but none had penetrated the corpuscles, and for a long time the preponderance of white blood corpuscles was noted, which continued until gradually the blood became normal under the use of arsenic.

Again, let me illustrate another point. In one ward there were six cases at the height of eruption. I carefully examined, with Drs. Campbell and Markoe, each case. One case was found to be of a malignant type. The child's right cheek was hardened and inflamed, and the mucous membrane showed that glistening surface so manifest in cancrum oris. The breath was fetid, there were cerebral symptoms, and a grayish exudation lined the fauces. We wished to test with the microscope, so without reference to any particular case, we requested Dr. Formad to examine the blood of all. In five the blood showed no micrococci, in one a large mass appeared in the field upon the first examination, and this one was the malignant case. This child was placed at once upon large doses of whisky, and it was also given, in tonic doses, quiniæ et ferri citras and citric acid.

The vegetable acids have also this remarkable effect of checking the devolopment of micrococci in culture solutions, especially acetic acid, but the mineral acids, also carbolic acid, it is said, have no such action.

The bichloride of mercury also possesses this quality to a very marked degree.

Now let me, for a moment, review this supject in the light of treatment, which to us is certainly of greatest importance. We may look at present upon the micrococcus as associated with the malignant symptoms of all complications known as "blood-poisoning." It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in malignant measles. Experience has already taught us that alcohol, the vegetable acids, calomel or corrosive sublimate, are the drugs *per se* in septicæmia.

The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.

We know of late how surprising a result will often attend the

use of alcohol and corrosive sublimate in malignant diphtheria, and also the value of vegetable acids, especially lemon-juice and claret, in this dreaded disease.

My cases simply illustrate one part of the subject. In this recital I do not allude to the other death-producing complications which are so universal. Children with measles will die of cerebral complications of pneumonia, of enteritis, and entero colitis—with these we have nothing to do at present. Their treatment will, of course, depend upon lesions—quinine, opium, hot baths, poultices will all take part.

I have simply brought forward the subject of "blood-poisoning for your consideration, and as these remarks are based upon the careful study of but one epidemic, they cannot be submitted as conclusive, but simply as illustrative of what may, at some future time, be accomplished by studying, not merely the bacteria anatomically and physiologically, but by experimentation with bactericides as antidotal in their action, in diseases, they may cause or complicate.

The conclusions which seem warranted by the statements of this paper, and by observations made in other cases in the Hospital, are as follows:—

The micrococcus is found in the contents of pustules and vesicles, and also in the blood taken from measles-papules in ordinarily mild cases, without its being present in the blood taken from the punctured finger. In severe cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood shows early in the attack numerous patches of micrococcus in the field.

In cases of rapid sthenic disease with high temperature and great tissue change, the evidences of large quantities of fibrine with a tendency to coagulation are manifest. The rapid production of micrococci soon gives the mechanical impediment, and if stasis takes place from any other obstruction to the circulation, clots rapidly form.

The non-appearance of clots in malignant fevers attended with fluid blood, such as low forms of typhus, diphtheria, etc, is simply due to the fact that rapid tissue changes have resulted in decomposition, instead of into fibrine-forming substances—no fibrine is

formed, hence no clots—but the micrococci are present all the same. These cases are held by some to be the malignant ones, think the *foudroyante* character of the others, just mentioned, entitle them to be placed in the same category.

But the micrococcus, if left unheeded, may attack the white corpuscle, as distinctly seen under the microscope, and destroy its contents. The red cells also change in appearance, and finally probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

In cases where the white blood cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, etc, are not in themselves excessive.

Alcohol (whisky in our cases) seems in some way, when given in large amounts, to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinine and iron in small repeated doses, digitalis perhaps, and frictions, baths and poultices, etc. As we have seen, the symptoms presented are contemporary with the changes going on within the blood; they may, in lieu of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future.

WE have to express our indebtedness to the author of the preceding article, Dr. J. M. Keating, of Philadelphia, for sending us advance sheets of his exceedingly interesting paper. The author neglected to inform us of the name of the journal if any, in which his paper is to appear, and it is for that reason only here omitted. Should we be in position to credit it to the proper source in another issue, we shall be glad to perform this proper duty.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 p. m., Otological, by Prof. Jones; 2.15 p. m., Ophthalmological, by Prof. Hotz.
Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
Rush Medical College—2 p. m., Medical, by Prof. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3:30 to 4:30 p. m., Diseases of the Chest, by Dr. E. Fletcher Ingals.
Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p.m., Gynæcological, Prof. Dudley.
Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.
Woman's Medical College—3 p. m., Surgical, by Prof. Owens.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics, by Profs. J. H. Hollister and R. N. Isham.
Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
Woman's Medical College—2 p. m., Gynæcological, by Prof. Stevenson.
Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.